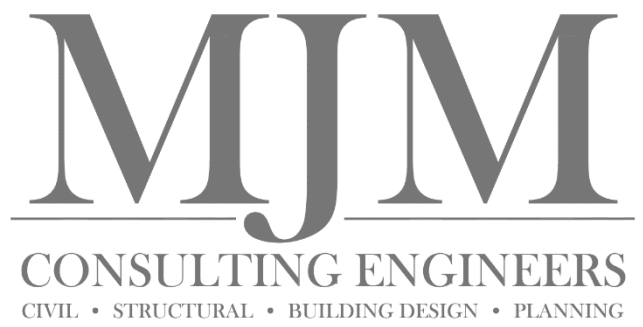


Proposed micro solar farm

1207 Donald Ross Drive, Coleambally, NSW

Statement of Environmental Effects

Prepared for Greentech Solar Project No 1 Pty Ltd





Project

Proposed micro solar farm

1207 Donald Ross Drive, Coleambally, NSW

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1 EXECUTIVE SUMMARY

The proposal is for development of a micro solar farm at 1207 Donald Ross Drive, Coleambally, (part of Lot 135 DP750903 only) a site which is zoned RU1 Primary Production and is currently utilised for agricultural purposes. Construction of the solar farm would be undertaken over a 6-month period with the site to operate over a 31-year lease period from the beginning of construction.

Although Electricity generating works are prohibited in the RU1 Primary Production zone under the Murrumbidgee Local Environmental Plan 2013, the project is permitted with consent under the State Environmental Planning Policy (Infrastructure) 2007 (ISEPP).

The development and its potential impacts are described in detail throughout this report and it is considered that it is permissible due to consistency with the applicable legislation, plans and policies. As demonstrated throughout this report the proposal would not have any significant adverse environmental consequences during either construction or operation which could not be managed on the site. Further to this, the site is ideally located due to the lack of surrounding sensitive receptors and the proximity to existing Essential Energy infrastructure required for connection to the electrical network which is a requisite for the project to succeed.

It is considered that the development can be approved subject to a merits assessment.

2 INTRODUCTION

2.1 OVERVIEW

This Statement of Environmental Effects (SEE) has been prepared on behalf of Greentech Solar Project No 1 Pty Ltd (the applicant) to form part of a Development Application for a micro solar farm to be developed at 1207 Donald Ross Drive, Coleambally, New South Wales (NSW). An aerial image of the site and surrounds is provided in the below figure.



Figure 1 Aerial image of development site and surrounds (Source: NSW Planning Portal)

The micro solar farm model involves the construction of smaller solar farms that integrate into the existing Essential Energy electrical network. As such, the subject site has been chosen due to its abuttal to existing Essential Energy 33KV transmission lines. Due to the existing zone substation

and power lines, the site is immediately proximate to assets that service local population centres and commercial operators which ensures electricity is most efficiently transferred from the source facility.

The site is currently utilised for agricultural purposes and contains two dwellings and associated farm structures within the south eastern portion. The development would be located on part of Lot 135 DP750903 only within a previously cultivated portion of the site within the north eastern corner as identified in the below figure.

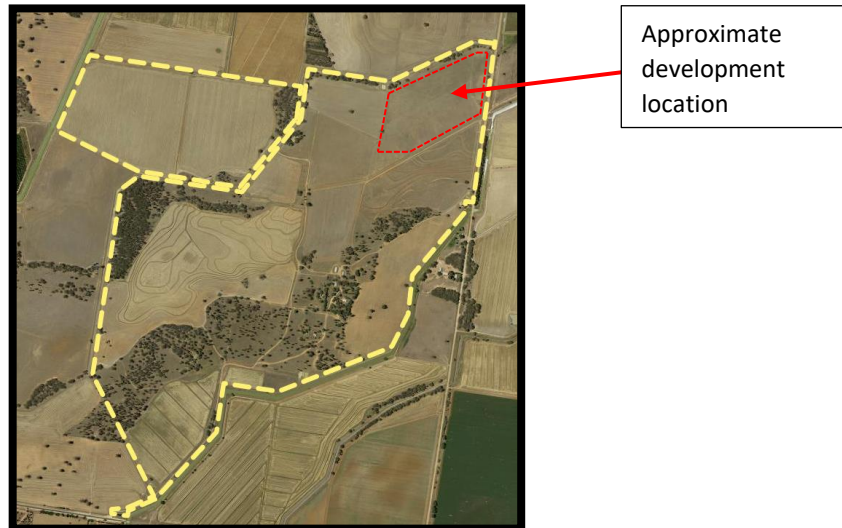


Figure 2 Approximate development proposal area (Source: NSW Planning Portal)

The proposal would include the installation of approximately 16,128 450 watt solar panels which would be mounted on single-axis tracking systems. The solar panels would be supported by ancillary aspects including a power station consisting of an inverter, transformers and switch gear; a HV switchboard consisting of HV switch gear; battery storage; electrical poles; hardstand vehicle areas and site fencing and landscaping.

The solar farm would have a 31 year lifespan from the beginning of construction with the project to be decommissioned and the site rehabilitated at the conclusion of its use which would allow the development footprint area to be re-utilised for agricultural undertakings as appropriate.

2.2 DEVELOPER OVERVIEW

Greentech Solar Project No 1 Pty Ltd (the applicant) is a subsidiary of ACEnergy Pty Ltd (ACEnergy). ACEnergy is a company that specialises in renewable energy development who have extensive experience with post renewable projects across most of Australia. In addition to the micro solar farm network, ACEnergy has been involved in other renewable projects which have included solar and wind power stations. They hold a portfolio of utility-scale solar farm projects across regional Australia including Stanhope, Echuca, Girgarre and Numurkah as well as a number of upcoming projects within New South Wales.

2.3 SCOPE OF STATEMENT OF ENVIRONMENTAL EFFECTS

This Statement of Environmental Effects accompanies a development application for the proposed development. It has been prepared on behalf of the client and includes the matters referred to in Section 4.15 of the *Environmental Planning and Assessment Act 1979* (the Act) and the matters required to be considered by the consent authority.

The purpose of this SEE is to:

- Describe the land to which the DA relates to and the character of the surrounding area;
- Describe the proposed development;
- Define the statutory planning framework within which the DA is to be assessed and determined; and
- Assess the proposal against the relevant heads of consideration as defined by Section 4.15 of the *Environmental Planning & Assessment Act 1979*.

3 SITE DESCRIPTION

3.1 DEVELOPMENT SITE

The development site is known as 1207 Donald Ross Drive, Coleambally. It is located approximately 25 km north east of the Coleambally township and approximately 23km south east of Darlington Point as shown in the below figures.

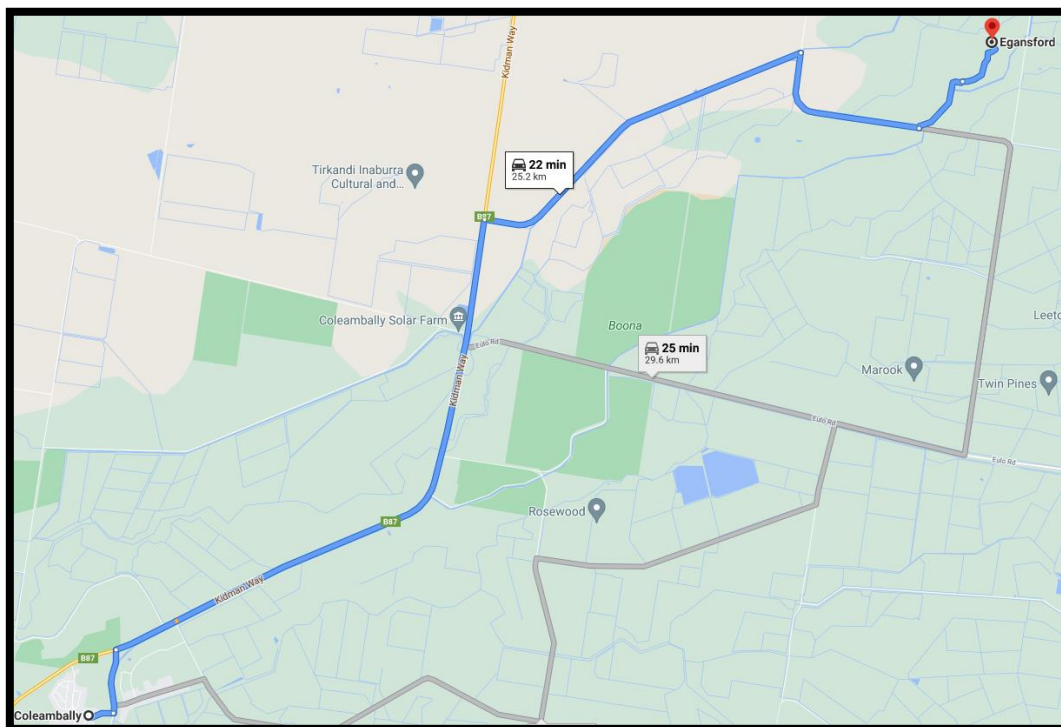


Figure 3 Location of development site from Coleambally township (Source: Google Maps)

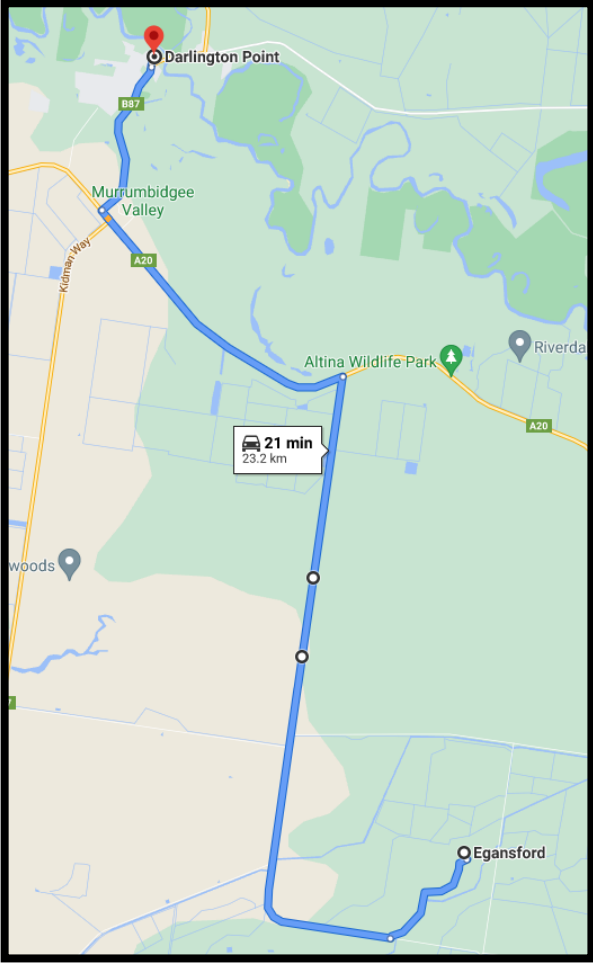


Figure 4 Location of development site from Darlington Point (Source: Google Maps)

It is located on the northern side of Donald Ross Drive and the western side of Cockys Lane as shown in the below locality plan.

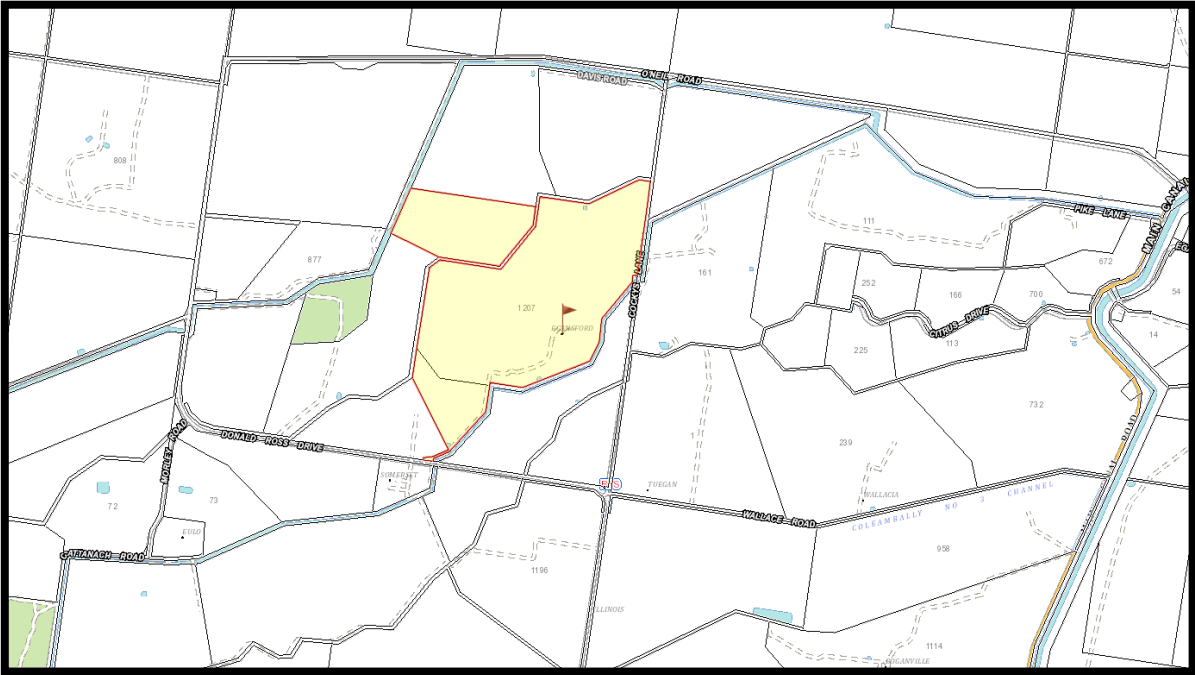


Figure 5 Locality Plan (Source: SixMaps)

The property is legally described as Lots 135, 145 and 146 DP 750903. The site is irregular in shape and approximately 211.7 Ha in size. It has frontage to Donald Ross Drive of approximately 90 metres to the south and a frontage of approximately 860 metres to Cockys Lane to the east.

The site is zoned RU1 Primary Production, consistent with all adjoining land as shown in the below figure.



Figure 6 Murrumbidgee Local Environmental Plan 2013 Zoning Plan of subject site and surrounds (Source: NSW Planning Portal)

The property is generally level due to its past and present agricultural use as shown in the below figure.

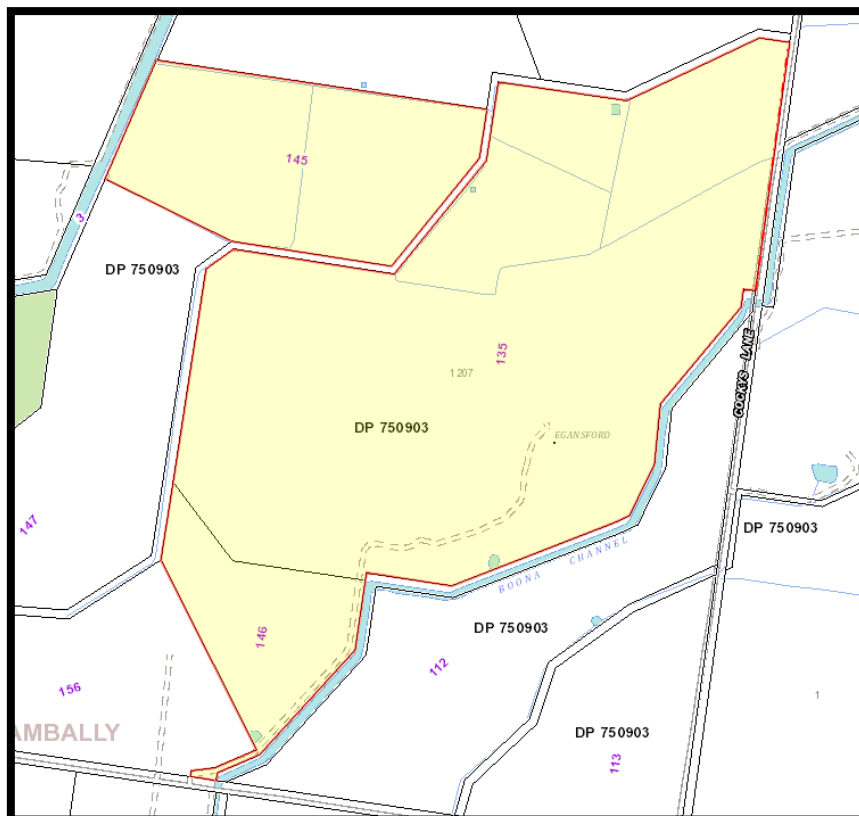


Figure 7 Site topography (Source: SixMaps)

The site is currently utilised for agricultural purposes in the form of grazing and arable cultivation. Due to the past agricultural use the proposal area has been cleared and contains remnant vegetation from previous cultivation activities. The site is not identified as being bushfire prone land however it is noted that the vegetation within 140 metres of the proposal area would be classified as 'grassland' as discussed in the accompanying Bushfire Assessment and Bushfire Emergency Management and Operations Plan.

The property is not identified as flood prone land according to the existing Flood Risk Management Study and Master Plan which does not show the site as being impacted by the 1:100ARI mainstream flood.

3.2 SUBJECT LOT

The proposed development would be located within the north eastern portion of Lot 135 DP750903 (subject lot) only as shown in the below figures and accompanying development plans.

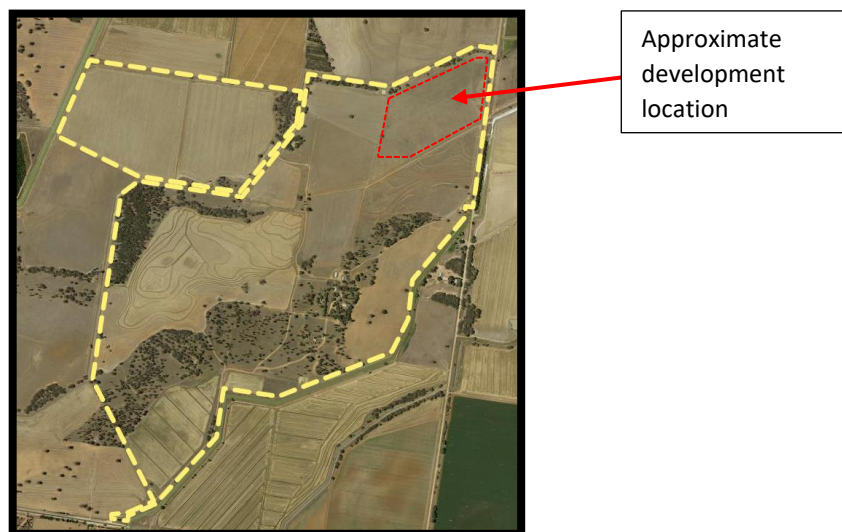


Figure 8 Approximate development proposal area on subject lot (Source: NSW Planning Portal)



Figure 9 Extract from Location Diagram (Source: ACEnergy)

Two unused dwellings are located on the subject lot with the nearest being located approximately 850 metres to the south of the proposal area. The nearest neighbouring dwelling is located on a property situated on Cockys Lane approximately 650 metres south of the proposal area as shown in the below figure. It is noted that the owner of the neighbouring dwelling has advised it is currently unused.



Figure 10 Surrounding dwelling locations within 2km radius of development area (Source: Google Earth Pro)

As shown in the extract from the site survey on the following page, the development area is relatively level with a difference of only 0.16m between the north eastern and south western corners of the site.

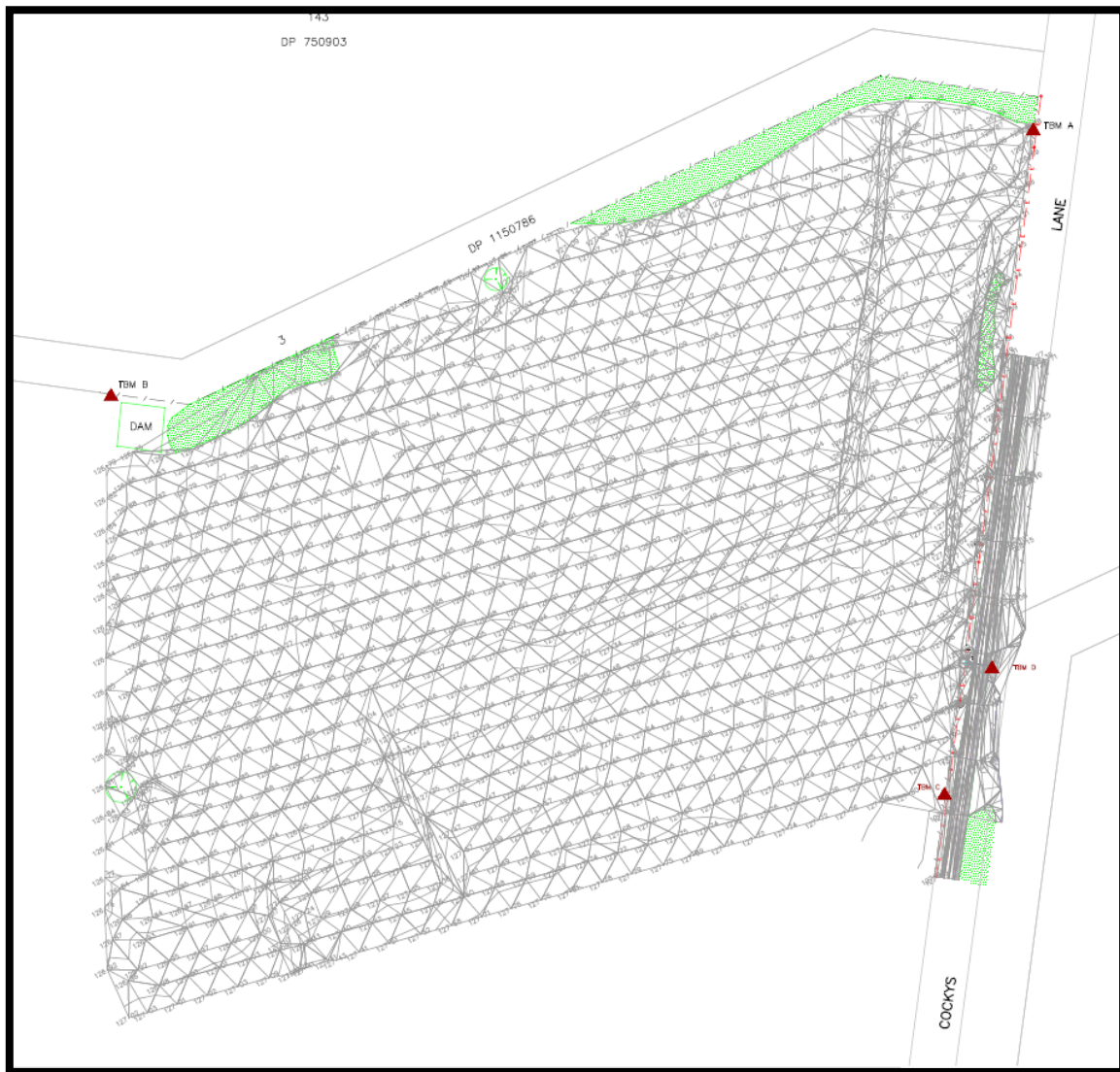


Figure 11 Extract from development area survey (Source: PHL Surveyors)

It is noted that the lot is not identified as bushfire prone land however the vegetation within 140 metres of the proposal area is identified as 'grassland' and as such this hazard is considered in the accompanying Bushfire Assessment and Bushfire Emergency Management and Operations Plan.

3.3 PRESENT AND PREVIOUS USES OF THE SITE

The site is currently utilised, and has been for a number of decades, for agricultural purposes in the form of grazing and arable cultivation. It is noted that the subject lot has previously been utilised for irrigated agriculture however has most recently been utilised for dryland cropping and grazing. The site contains two associated dwellings and other ancillary farm structures.

Although the previous and present uses of the site include agricultural activities, these are limited to grazing and arable cultivation. There is no visual evidence on site of contamination and the land is considered to be in a suitable state for solar farm development.

3.1 LOCALITY

The majority of surrounding land is rural in nature with two neighbouring dwellings being located within a two-kilometre radius of the development area as shown previously in [Figure 10](#) on page 7 of this report.

The nearby rural land is mostly cleared for agricultural uses with scattered paddock trees throughout. Some stands of trees exist with the western and southern portions of the site however these would not be affected by the development. The Sturt highway is located approximately 6.5 km north of the site, Kidman Way is located over 6.5km to the west of the site and Main Canal Road is located approximately 4km east of the site.

It is noted that the Coleambally Solar farm is located approximately 8.8km south west of the site with frontage to Kidman Way, and Darlington Point Solar farm is located approximately 4.5km to the north west on another section of Donald Ross Drive. There are no other significant land uses within the vicinity of the overall site or subject lot.

4 PROPOSED DEVELOPMENT

4.1 DEVELOPMENT OBJECTIVE

The objective of the development is to provide renewable energy to regional Australia, where it is most needed, at a scale which is responsive to the surrounding environment including nearby agricultural and other sensitive land uses. The intention is to functionally generate the equivalent output of larger conventional solar farms through a network of smaller facilities that can be rolled out in a site-sensitive manner and deliver renewable energy to different regions of New South Wales. These micro sites can be located on rural land without requiring extensive works to be undertaken on the landform and therefore can avoid the most productive agricultural land.

4.2 DEVELOPMENT DESCRIPTION

The development proposal is for a micro solar farm and associated infrastructure including photovoltaic panels and a power station consisting of inverter, transformer and switchgears. The power station would act as the primary conduit for electricity from the facility prior to it being transferred via overhead powerlines to the nearby Essential Energy transformer.

A 'micro' solar farm differs from a conventional solar farm in that it occupies less land area and has a maximum output of less than 5 megawatts. The project would include the installation of a total of approximately 16,128 PV panels with the entire development having a footprint of approximately 18 hectares. 5MW is the maximum export capacity to the utility grid. Although the solar modules have a combined nameplate capacity of 7.2MW, the maximum export capacity is 5MW. In order to export 4.95MWac, 7.2MWdc is required.

It is noted that the entire property has an area of approximately 211.7 hectares and as such the proposal will still allow agricultural land uses to continue to be undertaken on other areas of the property. The footprint of the solar farm will also be able to be utilised for grazing purposes throughout the life of the development as the compound will be established with ground cover in the form of permanent pasture.

Further to this, the solar farm would have a life span of 31 years from construction, after which it would be decommissioned and all assets removed from the site. The site would then be rehabilitated as required and the development area could easily be returned to agricultural use should this be desired by the landowner.

The solar farm area would be surrounded by a fully secured 1.8-metre-high steel wire fence with a landscaped vegetation buffer located on the interior of the fencing. The landscape buffer would take the form of two rows of plantings, row one being offset approximately 3.5 metres from the site fence, and row two being offset approximately 1.5 metres from the site fence. The buffer would have an expected combined width at maturity of approximately 5 metres. The vegetation would include shrubs with a mature height of approximately 3 metres, and understorey plantings with a mature height of approximately 1.5 metres which would assist in lessening visual impacts of the proposal on nearby residences.

The solar farm would be remotely monitored allowing for constant surveillance without the requirement of onsite staff, however a maximum of two contractors would attend the site a maximum of three times per month for general inspections and maintenance of equipment or landscaping or for security inspection purposes.

4.2.1 EQUIPMENT

4.2.1.1 TRACKERS AND SOLAR PANELS

A total of approximately 16,128 non-reflective solar panels, with approximate dimensions of 2100mm by 1050mm and a depth of 40mm, would be mounted to array tracking systems. A typical array would comprise approximately 80 – 90 individual solar panels.

The tracking system utilises small electric motors to tilt the arrays to ensure maximum solar radiation is received at all times throughout the day. The solar arrays will be mounted with the central axis being approximately 1.4m from ground level. The array and tilted panel would have a maximum height of approximately 2.5m when tilted to its sharpest angle as shown in the figure on the following page.

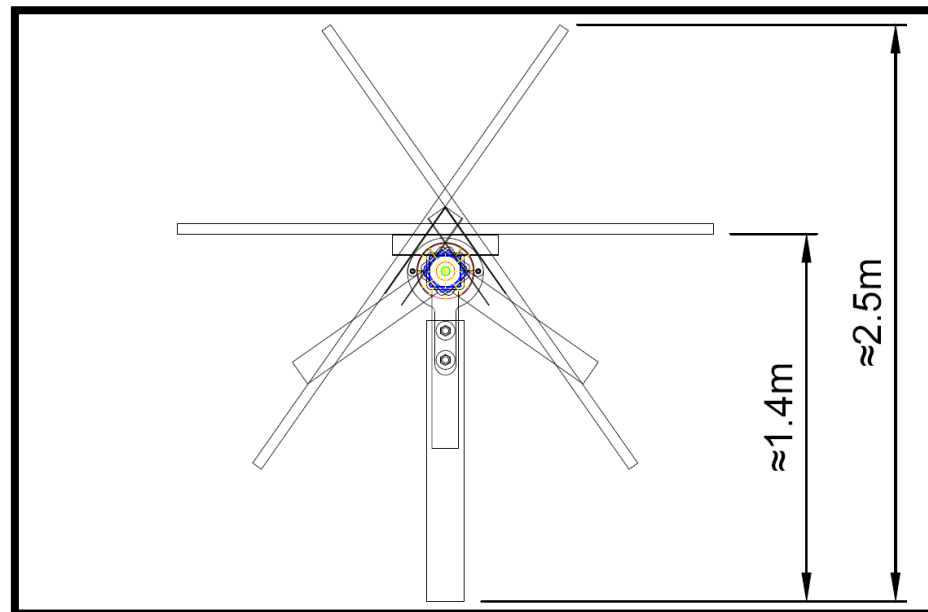


Figure 12 Typical tracker layout (Source: ACEnergy)

A typical solar tracking system including solar panels and arrays is shown in the below figure.



Figure 13 Typical solar tracking system (Source: Google)

4.2.1.2 CENTRAL POWER STATION AND CONNECTIONS

The facility contains a central power station consisting of an inverter, transformer and switchgears similar to that shown in the below figure.

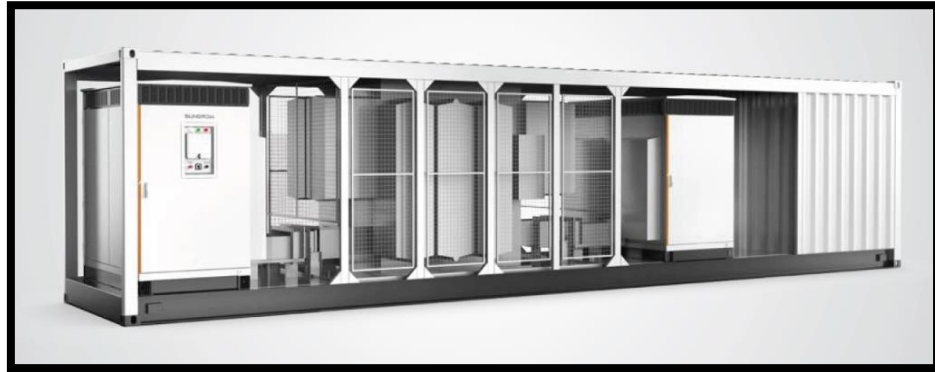


Figure 14 Typical inverter, transformer and switchgears (Source: Sungrow)

The power station will be prefabricated off-site and have dimensions of approximately 13m long, 3m wide and 3m high. It will be located within the compound, as identified in the accompanying ACnergy development plans, and will be utilised as the primary conduit for electricity generated from the solar panels to a HV switch board.

The HV switchboard, which would house the HV switch gear and associated safety features, would receive electricity from the power station via underground cables. The HV switchboard platform would measure approximately 5m wide, 5m long and 4m high. The switchboard would be fixed on the platform beams and the platform would be placed on footings as identified in the accompanying ACnergy plans. The figure below depicts a typical HV switchboard and associated platform.



Figure 15 Typical HV switchboard and platform (Source: ACnergy)

The HV switchboard would connect via underground cables to one of the two new power poles constructed within the compound which would then transfer the electrical load via overhead powerlines to the nearby Essential Energy substation.

As described above, one underground/overhead power pole and one overhead power pole are planned to be installed within the compound, with a third single overhead pole being installed to the east of the compound to support the installation of approximately 62 metres of overhead powerlines which would connect the facility to the existing Essential Energy network infrastructure to the east. Each pole will measure approximately 10 metres in height above ground.

The accompanying development plans prepared by ACEnergy provide additional details of the proposed power station including typical elevations, footings and connection details.

4.2.1.3 BATTERY ENERGY STORAGE SYSTEMS

Five (5) DC-coupled Battery Energy Storage Systems (BESS) would also be included in the development and would be installed on concrete footings as depicted in the accompanying plans prepared by ACEnergy. They would physically resemble a mounted shipping container measuring approximately 13m long, 3m wide and 3m high and will have a powder-coated grey finish similar to that depicted in the below figure.



Figure 16 Typical DC coupled BESS (Source: ACEnergy)

The layout of the BESS is provided in the figures on the following pages which confirm the containers cannot be entered by a person and as such would each be classified as 'equipment' rather than as a 'building'.

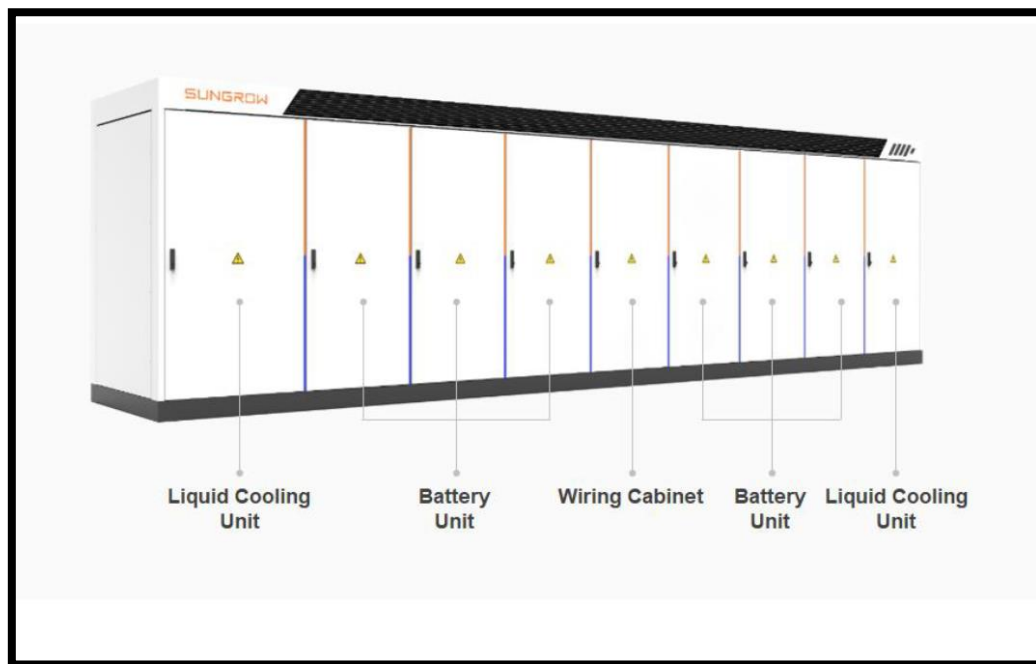
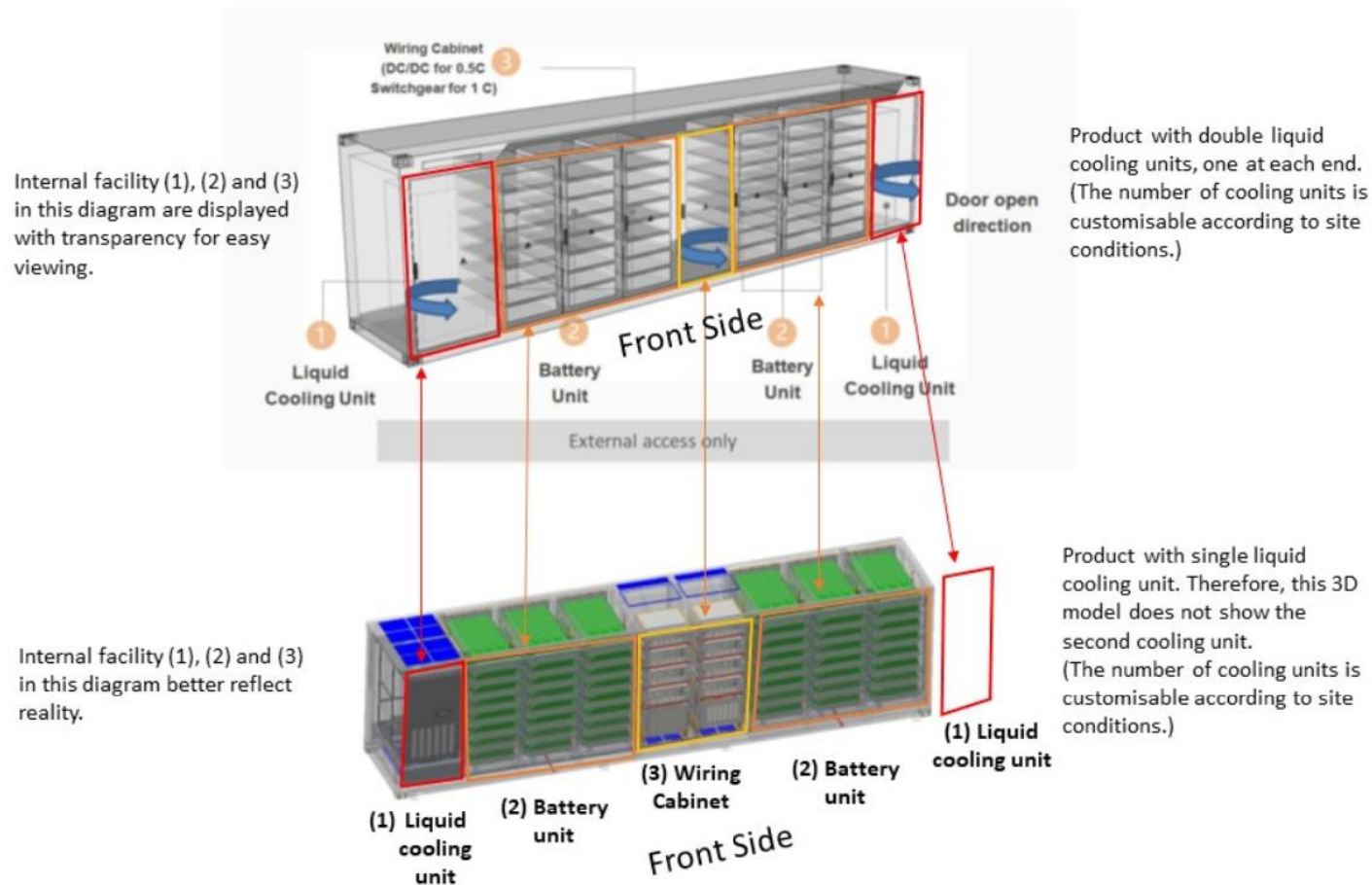


Figure 17 Layout of DC-coupled BESS (Source: Sungrow)

The two diagrams show the SAME battery product from the SAME angle.



Facility (1), (2) and (3) have taken up the space inside the container. There are only doors for maintenance purpose on the front. Maintenance personnel are not allowed to enter the container and physically cannot enter because there is no free space.

Figure 18 Layout of DC-coupled BESS explained (Source: ACEnergy)

The BESS would allow generated energy to be stored as required and utilised during times of high demand. They can also perform grid management functions such as frequency and voltage control.

Although the particular brand of the BESS equipment has not yet been selected, any BESS proposed for the project will comply with fire detection and suppression aspects noted below.

An IEC62619 test report accompanies this report as a separate cover attachment and the manufacturer guidelines and standard requirements to transport, install and store the batteries used in the DC coupled battery system will be strictly adhered to. Further to this, any person working on the equipment will wear suitable PPE and install any necessary equipment to minimise and mitigate the fire risk.

The batteries are not placed in outdoor conditions, being stored in a secure lockable steel container/cabinet. Battery cells within the container are sealed in an aluminium enclosure. As such the risk of the spread of fire should a fault occur is extremely low, and by nature the LFP technology does not release hydrogen gas and as such the risk of explosion is greatly reduced.

The BESS equipment will satisfy the safety requirements of relevant Australian standards, accompanied by certified test reports where applicable. It will be pre-fabricated and containerised before shipping to prevent damage to the sensitive components inside. The BESS containers will be provided with appropriate spill containment/bunding including provision for fire water runoff.

Each BESS container will have a built-in ventilation and air/liquid cooling system to prevent thermal runaway in battery cells and will also include an automatic fire detection and extinguishing system. Each container will also be designed to isolate any thermal runaway and fire from adjacent BESS containers.

Further to the above, Fire extinguishers will be provided near the site entrance and BESS installations. A rainwater tank with a capacity of 22,500L will also be provided at site and vegetation within 10 metres of all containers will be managed, including grasses.

Battery installations will be kept free of extraneous materials and combustible materials of all kinds. Regular inspections and housekeeping will be undertaken to ensure materials do not accumulate. Manufacturer's recommended safe operating conditions will be strictly followed. Routine inspection of the electrical equipment will be carried out to avoid potential electrical failure which may cause a fire hazard.

Each BESS container will include a built-in fire extinguishing system which will be checked as per the scheduled maintenance requirement and replaced if necessary, as per Australian standards. Adequate training will be provided to the staff and visitors in order for them to report and monitor the fire safety hazards.

Adequate ventilation of the BESS installation area will be provided where required under Australian Standard 5139 Electrical Installations – Safety of battery systems for use with power conversion equipment; the manufacturer's requirements and/or safety data sheets for battery storage.

The BESS will be fitted with automatic fire detection system which would trigger the fire

extinguishing system should thermal runaway escalate and cause a fire within the container.

Should a fire ignite within a BESS container, an alarm signal would be sent to the operation and maintenance (O&M) team that constantly monitors the solar farm via real-time signals and security cameras. Therefore, in the unlikely event where a fire cannot be suppressed by the automatic suppression system, the O&M team would notify local fire authorities immediately.

A battery test report and a Sungrow Gas Fire Extinguishing System information sheet accompany this report as separate cover attachments.

4.2.2 FENCING AND LANDSCAPING

Although the subject site is fenced by typical rural post and wire fencing, the development area would also be enclosed by a 1.8-metre-high chain mesh fence. A landscape buffer would be included inside the site fencing. The buffer would take the form of two rows of plantings, row one being offset approximately 3.5 metres from the site fence, and row two being offset approximately 1.5 metres from the site fence. The buffer would have an expected combined width at maturity of approximately 5 metres and is anticipated to appear similar to the depiction in the below figure.

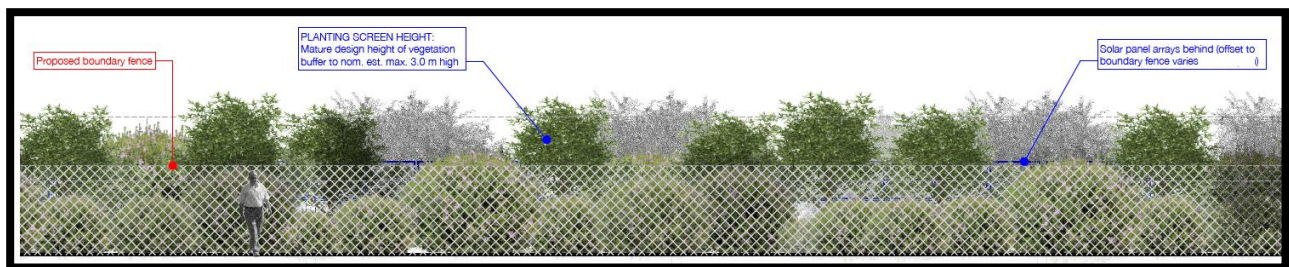


Figure 19 Typical vegetation buffer front elevation (Source: Ground Control Landscape Architecture)

The vegetation would include shrubs with a mature height of approximately 3 metres, and understorey plantings with a mature height of approximately 1.5 metres which would assist in lessening visual impacts of the proposal on nearby residences. A Vegetation Management Plan will be provided at Construction Certificate Stage of the development, should consent be forthcoming, however the plant species selected would be compatible with the soil type to ensure the objective of screening the site is met.

In relation to planting of the buffer, prior to expected wet weather the landscape buffer area will be ripped (where plants will be planted) with a 100 hp tractor at a depth of 300mm to 400mm. This encourages root growth for the plant species in the first few years of growth as it allows the rains to penetrate beneath the topsoil. Topsoil will be then ploughed with a rotary hoe attachment on a 2.5t posi track to ensure the soil is adequately de-compacted for planting. Plants will be spaced at 2m spacings as per the plan provided and 1.5m off the fence (middle of the 5m landscape buffer).

Prior to planting the plants will be submerged in a tub of water to ensure moisture is not drawn out of the plant when planted into the newly prepared topsoil. The plants will also be watered in at completion however pre-soaking (submerging) the plants assists in

moisture retention.

A 4-inch 2 stroke auger will be used to dig the hole and the plant is then backfilled with topsoil. When roots are slightly tight and stuck together the roots are roughed up prior to being put in the ground to encourage roots to spread. After planting, a plastic guard with 3 stakes marked out with a template is used to keep the plants safe from rabbits and hares. Mulch is then used (400mm x 400mm x 100mm depth) around each plant to keep moisture in the ground and assist with weed suppression.

A typical watering schedule includes plants being watered on a fortnightly basis, in a manner similar to the photographs provided in the below figures, for a period of three months following planting.



Figure 20a-e Typical watering equipment and procedures (Source: ACEnergy)

Following this period, the plants would likely be maintained by rain events however as the site would be monitored for maintenance purposes two to three times per month, the landscape buffer is able to be watered as per the initial watering schedule in times of low rainfall.

The watering schedule is documented and updated at each site attendance. Plants which have failed to grow or which have been damaged would be noted on each watering visit and replaced as necessary on the following watering visit, typically within the following fortnight.

As shown previous in [Figure 20](#), water for landscaping purposes would not be stored on site nor is an irrigation system proposed. Water would be brought in from external

sources and utilised as per the figure photographs for landscape maintenance.

The proposed landscaping is considered appropriate due to the rural location of the development site and the relatively low number of nearby visual receptors. The landscape buffer will be maintained for the duration of operation of the facility as necessary.

4.2.3 SITE ACCESS

Access to the solar farm would be via a security gate with a width of approximately 8 metres on the eastern side of the compound. An all-weather internal access track, with a width of approximately 4 metres and length of approximately 37 metres would connect the development compound to the Cockys Lane proposed property access to the east. The property access to the internal track from Cockys Lane will be modified as necessary to Council requirements to facilitate the development.

A desktop analysis confirms the access is likely to conform to safe sight distance requirements for vehicles leaving the site however this would be able to be confirmed at Construction Certificate application stage through completion of a full site analysis report.

4.2.3.1 LABOUR

Construction is likely to occur over an approximate six (6) month period. Civil earthworks and fencing would begin first, with material delivery, installation, testing, commissioning, and site clean up, landscaping and demobilisation to occur in turn.

During the construction period the amount of workers on the site would depend on the stage of works however a maximum of 50 workers would be on site at any one time. Positions would include Project Manager, Construction Manager, Health and Safety Manager, electrical contractors, plant operators, fencing contractors, heavy vehicle drivers, general labourers and the like.

4.2.4 OPERATION

As described previously in this report, once operational the solar farm would be remotely monitored allowing for constant surveillance without the requirement of onsite staff. As such site offices and facilities are not proposed nor are they required. A maximum of two contractors would attend the site a maximum of three times per month for general inspections and maintenance of equipment or landscaping or for security inspection purposes.

It is noted that the majority of technical issues which could arise during operation are able to be solved remotely by engineers who oversee the remote monitoring of the site. Any aspects which require on site attention would be attended by a local contractor who would also undertake the regular maintenance described above.

4.2.5 DECOMMISSIONING

Decommissioning of the facility would occur at the end of the useful life of the infrastructure, anticipated to be approximately 31 years from commencement of construction. At the end of the project lifecycle the facility will be decommissioned in a manner to ensure the land is left in a suitable state for a return to primary production purposes based on the current zoning.

It would be proposed that not later than 12 months prior to the proposed cessation of operation a decommissioning plan be prepared and provided to Council for review and approval. The objective of such a plan would be to restore the land to its pre-existing state suitable for agricultural use. It would include, but not be limited to, the following details:

- Expected timeline for rehabilitation completion;
- Decommissioning of all solar panels, above and below the ground infrastructure, inverter stations, fencing and any other structures or infrastructure relating to the approved development; and
- Programme of site restoration to return the land back to a suitable state for agricultural production.

4.3 COUNCIL PRE-DA ADVICE

A meeting was held with Council on 29th March 2021 to discuss the proposal. An overview of advice provided by Council and comments in response to this advice is provided in the below table.

Table 1 Pre-DA advice received from Council

COUNCIL ADVICE	COMMENTS
<i>Council is to advise if they would consider the Battery Energy Storage Systems as buildings (Class 7b) or as equipment.</i>	<p>Following ongoing discussions with Council and provision of additional concept plans and diagrams, Council confirmed that if the Battery Energy Storage Systems (BESS) were unable to be entered they would not be classified as a building. As demonstrated in various figures throughout this report (Figure 17 on page 14 and Figure 18 on page 15) the BESS are unable to be entered by a person. The doors on the relevant elevation are opened to access the internal parts which are then able to be maintained by the relevant contractor.</p> <p>Further to this it is also noted that similar solar farms have been developed in Victoria and are currently under development in other parts of New South Wales by ACenergy and in all instances the BESS have been classified by the relevant assessment</p>

	authority as equipment rather than buildings.
<i>Council advised that permanent sanitary facilities would be required on the site during operation.</i>	<p>It is assumed that this requirement was potentially in reference to the BESS being classified as buildings, and from Council's previous assessment of other conventional solar farms in the LGA which were staffed during operation.</p> <p>Given the clarification provided regarding the form of the BESS (being equipment rather than buildings), and the fact that the site is remotely monitored rather than staffed during operation, permanent sanitary facilities are not required, nor are they proposed for the operational phase of the development.</p>
<i>Council advised that there is history of creek systems within the Jerilderie and Coleambally areas which could increase probability of Aboriginal Heritage artefacts being located within the site. Council suggested soil profiles be investigated via bore logs and a landscape analysis be undertaken in relation to aboriginal landscape features. It was also suggested that discussions be undertaken with the Local Aboriginal Land Council (LALC).</i>	<p>Noted. A Due Diligence assessment has been completed in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (Section 5.12.1 Aboriginal Cultural Heritage of this report) which concluded that there are no landscape features that indicate the likely existence of Aboriginal objects, and further to this the land would be defined as 'disturbed land' therefore the project could proceed with caution without further assessment being necessary.</p> <p>Please note attempts have been made on a number of occasions to make contact with the Narrandera, Leeton and Griffith LALC's to discuss the Due Diligence assessment outcome however at the time of finalisation of this report, our attempts for liaison and further discussion of the Due Diligence assessment outcome have been unsuccessful.</p>
<i>Council will require a standalone Traffic Impact Assessment to accompany the application which will need to address the amount of traffic and routes to and from the site during construction. This will determine if any works are required to be undertaken to Council's roads/intersections.</i>	Noted. Please refer to the accompanying Traffic Impact Assessment Report prepared by Traffic Works which accompanies this report as a separate cover attachment. The assessment is discussed in additional detail further on in this report.
<i>Waste to be covered in the SEE – specifically the type,</i>	Noted. Waste is addressed further on in this

<i>expected amount, and arrangements for disposal. Council has concerns from previous projects where the amount of waste filled a single cell of the LGA waste facility which is not appropriate.</i>	report and in the accompanying draft Construction Management Plan.
<i>As the solar farm footprint area is to be grazed periodically, the application needs to include details of stock management in terms of access and routes to and from the farm.</i>	Noted. Any grazing stock would be that of the existing landowner and as such an additional gate for stock access only is included at the southern extent of the western compound boundary. Notwithstanding this, stock management is discussed further on in this report.
<i>Council questioned the lease timeframe and the possible need for the land to be subdivided.</i>	<p>Noted. The lease will be a total of 31 years and the requirement for subdivision has previously been investigated and determined not to be legally necessary due to the lease period. Additional information in relation to subdivision is provided in the below link - https://rg-guidelines.nswlrs.com.au/deposited_plans/lease_plans/lease_of_premises/solar-farms.</p> <p>There is no intention, nor is there any requirement, to subdivide the property to facilitate the development.</p>

5 IMPACTS

5.1 CONTEXT AND SETTING

The site is located in an RU1 Primary Production zoned area as shown previously in [Figure 6](#) on page 5 of this report. It is generally level with the development area site survey showing negligible slope.

Four residential dwellings are located within 2km of the site, two being located on the subject lot, a neighbouring dwelling located on a property to the south on Cockys Lane and the fourth located on Citrus Drive to the east therefore there are minimal potential visual and acoustic receptors in the area.

The proposal is not considered out of context or incompatible with the setting as agricultural areas have historically been the preferred location for electrical infrastructure, including substations and high voltage overhead transmission lines. Further to this electrical infrastructure, including renewable energy infrastructure and ancillary structures, are common within rural and agricultural areas.

The proposal, being defined as **electricity generating works**, is permissible within the zone according to *Part 3, Division 4 Electricity generating works or solar energy systems* of *State Environmental Planning Policy (Infrastructure) 2007 (ISEPP)*.

The majority of impacts on surrounding land uses would be experienced during the construction period however these impacts would be managed to minimise impacts as outlined in the Construction Management Plan (CMP), a draft of which accompanies this report as a separate cover attachment. The CMP would be amended as necessary and finalised for submission with a future Construction Certificate application for the project should development consent be forthcoming.

The CMP would also be accompanied by a Construction Environmental Management Plan (CEMP) which would detail the following:

- Drainage, Erosion and Sediment Control

The objectives of which are to:

1. Minimise the loss of soil resulting from project-related works area;
2. Minimise sediment build-up within the works area;
3. Avoid surface waters leaving the works area.

- Dust, Noise, Vibration and Light Management

The objectives of which are to:

1. Minimise dust generation or air emissions from construction activities;
2. Minimise off site particulate dust impacts;
3. Minimise nuisance noise and/or vibration generated from construction activities;
4. Achieve proper and efficient use of work lights at site.

- Biosecurity

Biosecurity management is listed in the CMP in general however will not be included in the CEMP as it does not apply to the development because:

1. All shipping containers destined to be unpacked in rural areas are subject to tailgate inspections, where signs of pests and plant materials will be checked (Department of Agriculture, 2020).
 2. The Flora and Fauna Assessment Report prepared by Kleinfelder confirmed that no priority weed species for the Riverina Local Land Services Region nor Weeds of National Significance (DoEE, 2021c) were identified within the Subject Site. Therefore, there is no risk of carrying plants of biosecurity risk from the development area.
- Vegetation Management

The objectives of which are to:

 1. Protect and preserve native vegetation identified outside the development area;
 2. Conduct proper vegetation clearing inside the development area for bushfire management purposes in consideration of maintaining groundcover;
 3. Grow and maintain landscape screening during the construction period.
 - Fauna Management

The objective of which is to minimise the disturbance to any fauna species surrounding the work area.
 - Traffic Management

The objectives of which are to:

 1. Provide protection to workers and visitors from traffic hazards that may arise as a result of the construction activities;
 2. Minimise the disruption to public traffic by generated traffic during the construction period.
 - Waste Management

The objectives of which are to:

 1. To ensure that work is undertaken in accordance with the Waste Hierarchy;
 2. To ensure waste is contained and disposed of appropriately.
 - Hazardous Substances

The objectives of which are to:

 1. To minimise the risk of releasing chemicals, fuel or oil to the development area due to construction activities;
 2. To ensure prompt clean-up of any spills of liquid or solid materials.
 - Emergency Preparedness and Management

The objective of which is to appoint representatives to the monitoring and control of site health, safety and environmental emergencies.
 - Rehabilitation

The objective of which is to rehabilitate any council-owned dams and trees that are potentially damaged as a result of construction activities.

Ongoing operation is unlikely to cause detrimental impacts on the surrounding area due to the relative absence of residential receptors and the proposed landscape buffer to be located within the compound fencing. Further to this all areas of the property can continue to be utilised for agricultural purposes throughout the life of the development, including the solar farm area which will be utilised for grazing purposes. The footprint area of the solar farm is also able to continue agricultural use following decommissioning of the infrastructure at the end of the 31 year lease period.

The site is suitably located to obtain the required solar access for the facility to operate as intended without resulting in unreasonable impacts on adjacent properties, while also being located in proximity to Essential Energy infrastructure, a core requirement for the project to succeed.

It is noted that two solar farms are located within an 8km radius of the site with the nearest facility being located approximately 4.5km to the north however as described above, electrical infrastructure, including renewable energy infrastructure and ancillary structures, are common within rural and agricultural areas. Further to this, the proposal differs from the nearby conventional solar farms as described previously in *4.2 Development description* on page 9 of this report, due to its reduced size and scale.

5.2 VISUAL IMPACTS

Due to the location of the development it is not expected to affect the visual privacy of residential uses within the area. The development does not require any after dark lighting as it will be operated remotely. Security cameras with night vision capabilities will be installed near the access gate however these will not result in detrimental visual impacts.

Due to the rural location and small number of surrounding visual receptors, the development is not expected to result in detrimental impacts on the landscape or surroundings. It is noted that a landscape buffer will be provided within the development boundary to assist in reducing visual impacts of the proposal.

The development will be visually obvious to users of the adjoining road network within the vicinity of the site however as stated throughout this report, agricultural areas have historically been the preferred location for electrical infrastructure, including substations and high voltage overhead transmission lines and electrical infrastructure, including renewable energy infrastructure and ancillary structures, which are common within rural and agricultural areas. The development will therefore not be visually unexpected in the rural setting. Further to this, it is noted that the proposal has an expected lifespan of 31 years, after which it will be decommissioned and the landscape will be returned to its current state.

5.2.1 GLINT AND GLARE

Glint and glare refers to the human experience of reflected light with glint being defined as a momentary flash of bright light, and glare being defined as a continuous source of bright light. Glare assessments for solar farms are generally based on the following factors:

- the tilt, orientation, and optical properties of the PV modules in the solar array;
- sun position over time, taking into account geographic location;
- the location of sensitive receptors (viewers); and
- Screening potential of surrounding topography and vegetation.

PV modules are designed to maximise the absorption of solar energy and therefore minimise the extent of solar energy reflected. PV modules have low levels of reflectivity between 0.03 and 0.20 depending on the specific materials, anti-reflective coatings, and angle of incidence. The higher reflectivity values of 0.20, that is 20% of incident light being reflected, can occur when the angle of incidence is greater than 50 degrees.

A single axis tracking system has a fixed maximum angle of rotation. Once the tracking mechanism reaches this maximum angle the PV modules position relative to the sun becomes fixed and therefore the angle of incidence increases and the potential for glare increases. The tracking system rotates the PV panels across an east to west arc, following the sun's trajectory across the sky. The purpose of the tracking system is to optimize solar energy collection by holding the PV module perpendicular to the sun. The tracking system is capable of a maximum rotation range of 120° (+/- 60°).

The maximum height of the PV modules above natural ground would be approximately 2.5 metres (1.4 metres when the panels are held at 0 degrees (flat) and 2.5 metres at maximum tilt).

The sun changes its east-west orientation throughout the day, and the sun's north-south position in the sky changes throughout the year. The sun reaches its highest position at noon on the Summer Solstice (21 December in the Southern Hemisphere) and its lowest position at sunrise and sunset on the Winter Solstice (21 June in the Southern Hemisphere).

As described throughout this report, there are four residences located within a 2km radius of the development, all to the south or south east of the proposal area. It is noted that the solar farm will include a landscape buffer within its boundary fence comprising two rows of plantings to obtain a matured vegetation combined width of approximately 5 metres and height of approximately 3 metres. Due to the direction of the development from the dwellings and the inclusion of the vegetation buffer, it is considered that the potential for glint and glare impacts on these receptors to be minimal.

O'Neil Road, Davis Road, Cockys Lane, Donald Ross Drive and Wallace Road, located within a 2km radius of the proposal area, are not considered to be classified roads. These roads are utilised by vehicle traffic consisting of movements of surrounding landowners, farm workers and farm machinery including larger traffic volumes during harvest. It is considered that the smaller footprint of the development (when compared to conventional solar farms), and therefore lower number of PV modules and resulting less opportunity for glint and glare impacts, compounded with the inclusion of the vegetation buffer, there would be minimal opportunities for glint and glare impacts on passing traffic.

5.3 NOISE & VIBRATION

The nearest sensitive receptors include the dwellings on the subject site, located a minimum of approximately 850 metres south of the proposal area, and the nearest neighbouring dwelling on Cockys Lane, located approximately 650 metres south of the proposal area as shown in [Figure 10](#) on page 7 of this report.

It is noted that any acoustic impacts on the existing dwellings on the site (which are currently unused) will not be unexpected by potential future residents given their knowledge of, and consent to, the project as the landowner.

Acoustic impacts are expected during construction of the development in terms of traffic and general onsite construction generated noise. Major civil works, materials delivery and other heavy vehicle movements will only occur between the hours of 7am - 6pm Monday to Friday, and 8am – 1pm Saturday. To maximise productivity less noise intensive activities including electrical work, testing and commissioning may be conducted outside these hours and between 7am – 7pm Monday to Sunday as required.

Given that the adjacent land is zoned RU1 Primary Production, the anticipated noise generation from construction activities is not considered to be above and beyond that which would be expected during intensive agricultural activities such as harvesting. It is noted that construction would be undertaken over a 6 month period however earthworks are anticipated to be undertaken over the first 4 weeks, with delivery of large materials to be undertaken intermittently over the construction period, with a maximum of three heavy vehicles expected to attend the site daily on average.

The nearest dwelling on Cockys Lane (a currently unused dwelling) would be separated from the development by approximately 650 metres however with Cockys Lane being utilised as access to the site, would be impacted by the noise of construction traffic. As described throughout this report and in the accompanying Traffic Impact Assessment, the surrounding road network is currently utilised by a fair amount of traffic including movements of surrounding landowners, farm workers and farm machinery including larger traffic volumes during harvest. The additional traffic generated during construction is not considered to be to an extent which would be unreasonable in the area when considering current traffic loadings. Further to this, it is noted that the construction period is relatively limited as described previously.

In relation to vibration impacts, it is noted that there will be vibratory equipment used within the boundaries of the compound including an impact piling rig. The Transport for NSW – Construction Noise Strategy document recommends a separation distance of 15 metres when addressing cosmetic response, and 50 metres when addressing human comfort. It is noted that all sensitive receptors are located well over this distance from the proposal area.

In relation to operational noise, it is anticipated that this would be well below noise generated during construction. The facility will operate 24 hours per day, 7 days per week with operational equipment to include the inverter, AC/DC converter, transformer, battery storage air conditioning units and the array tracker motors. Further to this, the site is unstaffed with only attendance of contractors (one to two light vehicles) for maintenance purposes a maximum of three times per month. The potential noise emitted from the equipment has been retrieved from supplier specifications for typical versions of the equipment and is reproduced in the table on the following page.

Table 2 Operational noise sources

EQUIPMENT	NOISE LEVEL	MEASUREMENT DISTANCE
Central Inverter Unit (Sungrow SG2475HV) – per unit	73 - 79 LAeq	1 metre
Inverter Unit Transformer – 5MVA	56 LWA – sound power	N/A
Sungrow SD1250HV DC / DC Converter Unit – per unit	67 - 71 LAeq	1 metre
SMA Battery Storage Container Air Conditioning Unit – per unit	58 LAeq	10 metres
NEXTracker Motor – per unit	< 60 LWA – sound power	N/A

The contractor vehicle movements are considered to have negligible impact on the surrounding area during the operational phase due to the existing traffic loadings on the surrounding road network.

The NSW Environment Protection Authority Noise Policy for Industry (NPfI) provides suitable criterion for addressing operational noise emissions associated with the proposal at sensitive receptors. The Policy was released in 2017 and includes methodologies for assessment and management of typical operational noise emissions from industrial premises within NSW. Within the NPfI, noise emissions are considered in various assessment periods defined as the day, evening, and night to reflect the sensitivity associated within the impacts of noise.

When addressing noise emissions associated with the commercial / industrial uses, the NPfI defines project trigger levels which are used to consider potential impacts at sensitive receptors. The levels are determined based on consideration of what the NPfI refers to as the 'Project Intrusiveness Noise Level', and the 'Project Amenity Noise Levels'.

The intent of the project intrusiveness noise level is to minimise the potential change in acoustic environment at sensitive receptors by ensuring that impacts associated within a new source are controlled to values 5 dB above a minimum threshold noise level. The attributable noise levels are defined as LAeq values assessed over a 15 minute period.

The intent of the project amenity noise level is to limit continuing increases in noise level at sensitive receptors through consideration of independent commercial / industrial operations in accordance with the Intrusiveness Noise Level criteria alone.

It is noted that the surrounding area is rural in nature and therefore rural activities and use of machinery may have some influence on the background noise levels at noise sensitive receptors located within proximity of the site. However, in the absence of site measured data, the minimum 'rating background levels' (RBLs) included within the table on the following page have been adopted as the basis of this desktop assessment.

Table 3 Minimum RBLs, project intrusiveness noise levels and project amenity noise levels (Source: NPfI)

DESCRIPTOR	NPfI DEFINED ASSESSMENT PERIOD		
	DAY	EVENING	NIGHT
Minimum RBLs	35 LA ₉₀	30 LA ₉₀	30 LA ₉₀
Project Intrusiveness Noise Levels	40 LA ₉₀	35 LA ₉₀	35 LA ₉₀
Project Amenity Noise Levels (based on the rural area)	50 LA _{eq}	45 LA _{eq}	40 LA _{eq}

In accordance with the methodologies contained within the NPfI, project noise trigger levels are determined based on whichever of the project intrusiveness level and the project amenity level is the lower or more stringent. As such, the project intrusiveness noise levels would apply to this development.

Based on the potential acoustic impacts of the project equipment identified in Table 2, the likely background noise levels generated from the surrounding rural land uses, and the distance of the sensitive receptors located within a 2km radius of the site, it is unlikely that detrimental acoustic impacts would be experienced during operation of the development.

In relation to operational vibration impacts, it is noted that no vibration intense activities will occur during the operational phase of the development and therefore no adverse vibration impacts are expected on sensitive receptors.

Decommissioning noise is anticipated to mirror that of construction noise and as such is considered to be in line with anticipated agricultural use acoustic impacts within the vicinity.

5.4 AIR AND MICROCLIMATE

The site is located within the Riverina Bioregion which includes southwest NSW, and extends into central-north Victoria (Vic). The bioregion climate is dominated by a persistently dry semi-arid climate characterised by hot summers and cool winters. Air quality is expected to be impacted in existing conditions to some extent due to agricultural practices undertaken within the subject and surrounding sites.

Available climate data identifies the region receives unpredictable amounts of rainfall with the average ranging from 238 – 617mm per year with drought periods not being unusual. The average monthly maximum temperature ranges from 31.1 - 33.6 degrees, with the minimum ranging from 3.2 – 3.9 degrees.

In previous high-profile solar energy facility developments there has been community concern around the potential heat generated by solar energy facilities leading to a 'micro-climate' in the immediate vicinity. In cases of significantly larger solar facilities of over 100 hectares, the impact of such an effect has been proven to be negligible. In considering the significantly smaller size of this proposal, this is even more so. Additionally, there is very little evidence to support a supposed 'heat island' affect from solar facilities. Any ambient heat from panels would have wholly dissipated by the time it reaches the facility's fence line.

The primary air quality impacts associated with the development are anticipated to be experienced during the construction and decommissioning phases. These impacts would

include the potential for dust generation from vehicle movements to, from, and about the site. Potential air quality impacts are considered manageable with the implementation of mitigation measures as outlined in the accompanying draft CMP.

Detrimental air quality impacts are not expected during operation due to the nature of the facility however minor impacts may be experienced via maintenance contractor vehicle movements. Any such impacts are anticipated to be negligible due to limited site attendance and the existing usage of the surrounding road network.

The impact of the overall development, being solar energy generation, is anticipated to be positive as it would contribute to a reduction in greenhouse gas emissions related to conventional energy generation methods.

Cumulative air quality impacts are expected to be negligible due to the existing use of surrounding land and the relatively limited construction timeframe.

5.5 SOILS AND SURFACE WATER

The potential to impact upon soils and surface water quality on the site is greatest during the construction and decommissioning phases. During these periods the soils will be subject to disturbance associated with site preparation and infrastructure installation/removal. Construction works for the proposed solar farm include removal of minor areas of groundcover and soil during site preparation and minor excavation for footings for the proposed substation, battery energy storage systems, access road, vehicle movement areas, temporary laydown area, parking area and underground cabling.

The upper layer of soil would be subject to temporary disturbance which may lead to erosion and potential sedimentation in runoff during periods of rainfall. Extensive cut and fill is not proposed as part of the development. Minor earthworks will be undertaken to form the temporary vehicle movement and unloading areas as well as to clear area for footings of infrastructure containers. These works would not require cut and fill of any areas over a maximum of 300mm and would not require any retaining walls or similar.

The use of fuels, lubricants and herbicides during construction pose a risk of surface water contamination in the event of a spill. Management of contained sewage disposal facilities also pose a risk to surface water quality should spills occur.

During construction and decommissioning, erosion and sediment control mitigation measures will be implemented as required by applicable policies, guidelines and legislation. Standard mitigation measures around refuelling, maintenance and weed clearing will minimise the risk of spills. Water, which will be sourced externally, will be utilised as required for dust suppression.

The potential for the proposed solar farm to impact upon soils and surface water quality during the operational phase, after the disturbed areas and construction compound have been rehabilitated, is minimal. The site will not be staffed during operation with routine maintenance and monitoring undertaken by contractors being the extent of regular activities which are unlikely to have any impact to surface water quality. During operation the site will be under permanent pasture which will result in lower level of soil erosion relative to the current land use practice of arable cultivation. A rainwater tank with a capacity of 22,500L is

proposed to be located on the site as a static water supply to be utilised for bushfire fighting purposes if required.

It is considered that the potential surface water quality impacts do not present any major constraints that cannot be managed. All construction and decommissioning activities for the proposed solar farm will be undertaken in a manner that prevents erosion and sediment impacts at the subject site and those surrounding. Post approval, a Construction Environmental Management Plan (CEMP) will be prepared to identify erosion and sediment control mitigation measures prior to works commencing on the site.

5.6 GROUNDWATER

It is noted that the property, including the subject lot, is identified as 'groundwater vulnerable' according to the Murrumbidgee Local Environmental Plan 2013 as shown in the below figure.

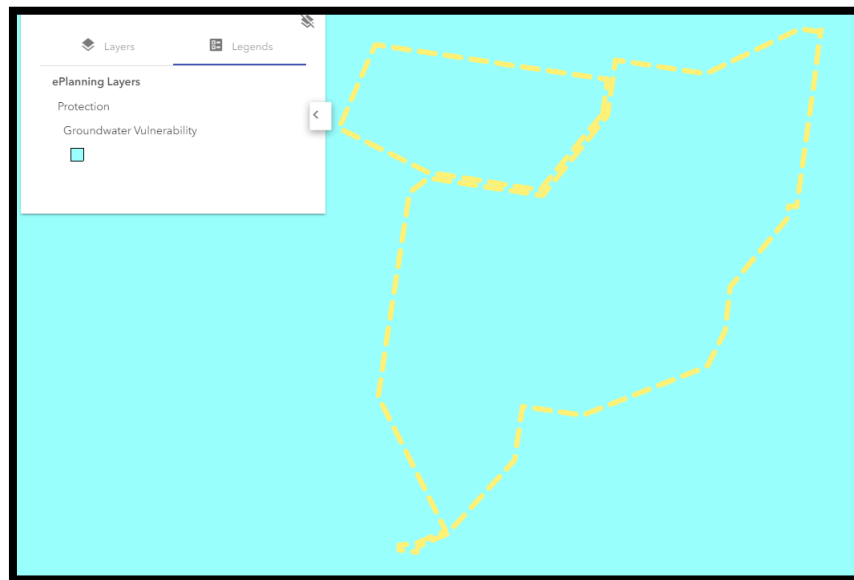


Figure 21 MLEP2013 Groundwater Vulnerability Map (Source: NSW Planning Portal)

No groundwater will be used by the development. Water quality impacts to groundwater during construction, operation and decommissioning are considered unlikely as limited excavation is proposed for the installation of panel tracking systems and ancillary infrastructure. Panels will be installed on driven piles installed not more than 2.5 m below the ground surface, while minor excavation works would be undertaken for trenching for underground cabling as well as internal access roads and construction of hardstand areas.

Adverse impacts on groundwater dependent ecosystems are not anticipated, nor are cumulative impacts on groundwater including impacts on nearby groundwater extraction for a potable water supply or stock water supply. It is considered that the nature and siting of the development will ensure impacts on groundwater are avoided.

5.7 LAND AND SOIL CAPABILITY

Land capability is the inherent physical capacity of the land to sustain a range of land uses and management practices in the long term without degradation to soil, land, air and water resources. Failure to manage land in accordance with its capability risks degradation of resources both on- and off-site, leading to a decline in natural ecosystem values, agricultural productivity and infrastructure functionality.

The development area is identified on the Land and Soil Management Capability Mapping for NSW as a combination of Class 3 and Class 6 as shown in the figure below.

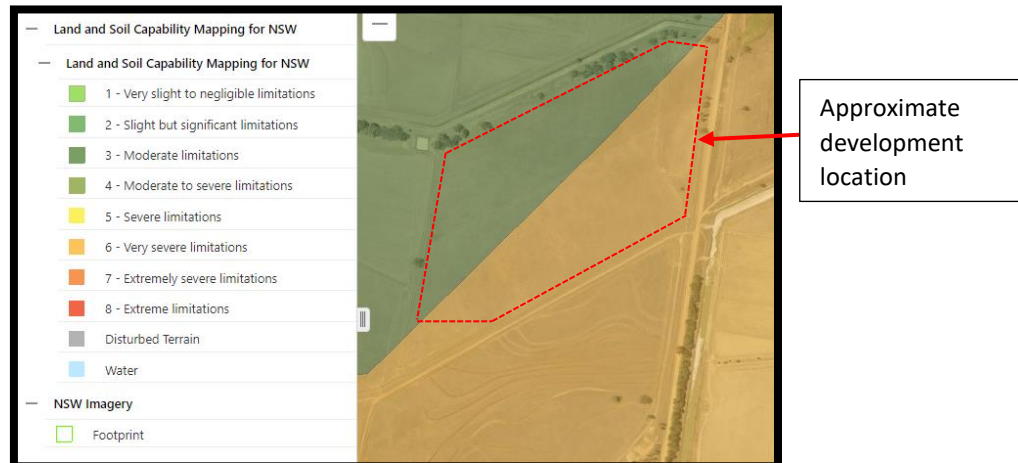


Figure 22 Land capability of development area (Source: NSW SEED Map)

Class 3 lands are described as having limitations that must be managed to prevent soil and land degradation. Such lands are generally used for grazing, and are suitable for pasture improvement. It can be readily used for a range of crops including cereals, oilseeds and pulses however productivity will vary with soil fertility. The Australian Soil Classification Map of NSW identifies this part of the site as Vertosols, often called cracking clay soils, which have a clay texture throughout the profile; display strong cracking when dry, and shrink and swell considerably during wetting and drying phases.

Class 6 lands are described as having severe to very severe limitations for grazing and other land uses. Fertility varies with geology, soil depth and type and such land is suited for less productive grazing. The Australian Soil Classification Map of NSW identifies this part of the site as Rudosols, which generally have a low fertility and low water-holding capacity and can be shallow and stony.

It is noted that groundcover within the development area will be maintained via permanent pasture for the life of the solar farm and as such it is considered that the development will have less impact on the affected land and soil than the agricultural uses to date. It can be grazed throughout the lifecycle of the development as required to manage growth and the land will easily be able to be returned to agricultural use in future following decommissioning of the solar farm.

5.8 WEED MANAGEMENT

It is noted that a general definition of a 'weed' is 'a wild plant growing where it is not wanted and in competition with cultivated plants'. For the purposes of this report the term 'weed' refers to noxious weeds as defined under the Noxious Weeds Act 1993 (NWA1993). Noxious weeds generally impact on agriculture, animal or human health or the environment whose control will provide benefit to the community over and above the cost of implementing control programs.

The site has been utilised for agricultural dryland cropping and grazing for an extended period. To enable successful and viable agricultural production it is likely that weed control has been a significant aspect of historical management practices across the site. It is noted that while significant infestations of noxious weeds are unlikely to be prevalent on the site, it is likely that the site contains district weeds typical of agricultural land in the region.

Good weed management is about overall good land management which typically includes strategies which resist further invasion of weeds, reduces the ability of weeds to establish, reduces adverse impacts on the site or to neighbouring properties and strategically addresses a reduction in weed density and distribution where practical.

It is proposed that a detailed Weed Management Plan be prepared and provided to Council as part of a future Construction Certificate application for the project should consent for the development be forthcoming. The objective of such a plan would be to ensure ongoing appropriate weed control and management during the construction and operation of the development to ensure weed control on the site and to minimise the risk of offsite impacts. The plan would include, but not be limited to, the following details:

- Herbicide identification, use and application method;
- Personal, equipment and machinery hygiene practices when entering the site during construction;
- Establishment and management of groundcover for the proposed permanent pasture during operation;
- Details of stock rotation in terms of weed control; and
- Monitoring and maintenance details.

5.9 WASTE AND EFFLUENT DISPOSAL

5.9.1 WASTE

During construction waste is likely to be generated in the form of general waste (plastic conduits, cables, organic waste) and recyclable material (such as cardboard boxes from the PV panels) from materials packaging and general project construction.

All general waste will be collected, sorted and stored appropriately in labelled waste containers. Two waste bins will be located in the management hub area of the site, one of which will house general waste while the other will be for recyclable material only. The bins will be checked and logged daily by assigned personnel and once nearing capacity, these will be collected from the site by a licensed waste contractor and disposed of appropriately. It is anticipated that up to 300 cubic metres each of general and recyclable waste will be generated during the construction phase.

Mobile wheeled waste bins will be available on the site to dispose of waste while unpacking materials. Once full, the waste from these bins will be transferred to the bins in the management hub area described previously. The site will be monitored regularly to ensure all waste is disposed of appropriately and not left about the site.

It is anticipated that little waste will be generated during operation due to the site being unstaffed excepting the periodical attendance of monitoring and maintenance contractors as required. Waste management during operation will however be similar to that during construction, with general and recycling waste bins residing on the site with waste logged once per month and the bins collected by a licensed waste contractor when required.

Waste generated during decommissioning is expected to take similar form to that generated during construction, being general in nature. Waste during the decommissioning phase will be dealt with in the same manner as that generated during the construction phase however as much of the material will be recycled for reuse as possible.

5.9.2 EFFLUENT

During construction effluent will be generated from the portable amenities. Effluent from the site facilities will be pumped to a temporary waste holding tank which will be pumped out and serviced regularly by a suitably qualified and licensed local liquid waste contractor. It is anticipated that emptying and maintenance frequency will be dependent on the stage of construction and the associated number of workers on the site at the time.

Effluent will not be generated during operation as the site will be remotely monitored and will therefore not require any onsite staff. Sanitary facilities are therefore not proposed, nor are they required for the operation phase of the project. It is noted that sanitary facilities have not been proposed for the operational phase in all other Victorian and NSW facilities of this nature developed by the proponent, nor have they been a requirement by any of the associated consent authorities.

Effluent generation during decommissioning would be similar to that as described above for the construction period and as such it would be managed in the same manner.

5.10 FLORA AND FAUNA IMPACTS

The site has been historically utilised for agricultural purposes including grazing and both irrigated and dryland arable cultivation, including the development footprint area. The property is identified as 'Terrestrial Biodiversity' as shown in the below figure.



Figure 23 Terrestrial Biodiversity Mapping for entire property (Source: NSW Planning Portal)

Due to the identification of terrestrial biodiversity within the subject lot, a Flora and Fauna Assessment Report was prepared by Kleinfelder and accompanies this report as a separate cover attachment. As identified in the report the development footprint area is identified as low-condition agricultural land dominated by exotic plant species. No threatened species were identified within the subject site during the assessment and the impacts of the development on threatened species which occasionally utilise the site are likely to be negligible given that no key habitat features for such species occur. No threatened ecological communities were identified nor were any natural watercourses and as such there will be no adverse impacts on aquatic habitat. Further to the above the property and surrounds are not identified as containing high biodiversity value vegetation.

The assessment concluded that the habitat is considered to be generally unsuitable habitat for threatened species and therefore the development is unlikely to cause a significant impact to any threatened species, populations or ecological communities listed under the NSW *Biodiversity Conservation Act 2016*. Further to this, the NSW Biodiversity Offset Scheme is not triggered by the proposal as the removal of native vegetation is below the relevant clearance threshold. No Commonwealth Environment Planning and Biodiversity Conservation Act 1999 (EPBC) listed species, ecological communities, migratory species or important habitat for such entities were identified within the subject site and the assessment determined that impacts to Matter of National Environmental Significance are unlikely and therefore an EPBC referral to the Commonwealth Minister for the Environment is not recommended.

Avoidance and mitigation measures have been included in the assessment to reduce potential impacts to biodiversity values within the subject site and the environment which will be incorporated into a future Construction Environmental Management Plan (CEMP) which will be prepared to support a Construction Certificate for the project should consent be

forthcoming. It is therefore considered that the development is unlikely to result in detrimental impacts on flora and fauna.

5.11 STOCK MANAGEMENT

As described previously in this report, Council requested details of stock management in terms of access and routes to and from the solar farm as the footprint area is to be established as permanent pasture and grazed periodically.

It is noted that any grazing stock would be that of the existing landowner and as such an additional gate for stock access only is included at the southern extent of the western compound boundary as shown on the accompanying development plans. The gate is accessible from the subject lot and as such there would be no impact of the stock on the general public. The gate will be able to swing open and have appropriate dimensions for easy stock movement while also maintaining sufficient security features required by the development.

A specific stock movement route has not been proposed within the boundary of the solar farm as the stock can move freely within the compound given that the solar tracker design allows sheep to move under the solar panels safely. Specifically, the panel heights will vary from approximately 0.5 metres to 1.4 metres above the ground throughout the day depending on the tracker angle, with the higher range being achieved the majority of the time. Watering points would also be established within the location to assist with management of grazing livestock.

Grazing stock would be excluded from accessing areas accommodating critical electrical infrastructure including the central inverter, HV switchroom and BESS through the erection of internal fencing around these facilities.

A Stock/Grazing Management Plan will be developed, in consultation with the landowner prior to commencement of operation, and would accompany a future Construction Certificate application for the development. Such a plan would include details of the grazing regime and stock rotation (i.e. when sheep arrived, head numbers and when they were taken off the site), and also identify the date and location of any weed control activity.

The landowner will be provided with a site induction and any other necessary occupational health and safety training to enable them to access the site as needed to tend to grazing livestock. The access by the landowner would be subject to operational health and safety requirements and notification of members of the project operations and maintenance team.

5.12 HERITAGE

5.12.1 ABORIGINAL CULTURAL HERITAGE

A Due Diligence assessment was undertaken in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW*. Step 1 of the Due Diligence process relates to whether the activity will disturb the ground surface. Due to the nature of the proposal the site will be disturbed by the footings of the proposed solar panel trackers and the central inverter, BESS, overhead electrical poles, material laydown area, and vehicle movement areas including the site access track.

Step 2a requires for a search of the AHIMS database to be undertaken and for any other sources of information of which we are aware to be considered. An AHIMS search was undertaken on 26th April 2021 with a buffer of 1,000 metres. The search concluded that no aboriginal sites are recorded in or near the subject lot, nor have any aboriginal places been declared in or near the subject lot. A copy of the AHIMS search results are attached to this report as Appendix A.

Step 2B advises that regardless of the outcome of an AHIMS search, it still needs to be considered whether aboriginal objects are likely to be in the area of the proposed activity when considering specified landscape features. Specified landscape features include rock shelters, sand dunes, waterways, waterholes and wetlands.

It is noted that the development area is not located within the vicinity of rock shelters, sand dunes, current waterways, waterholes or wetlands. It is however bounded by a prior stream to the north and is located within the vicinity of prior streams to the east and south as identified in the below figure.

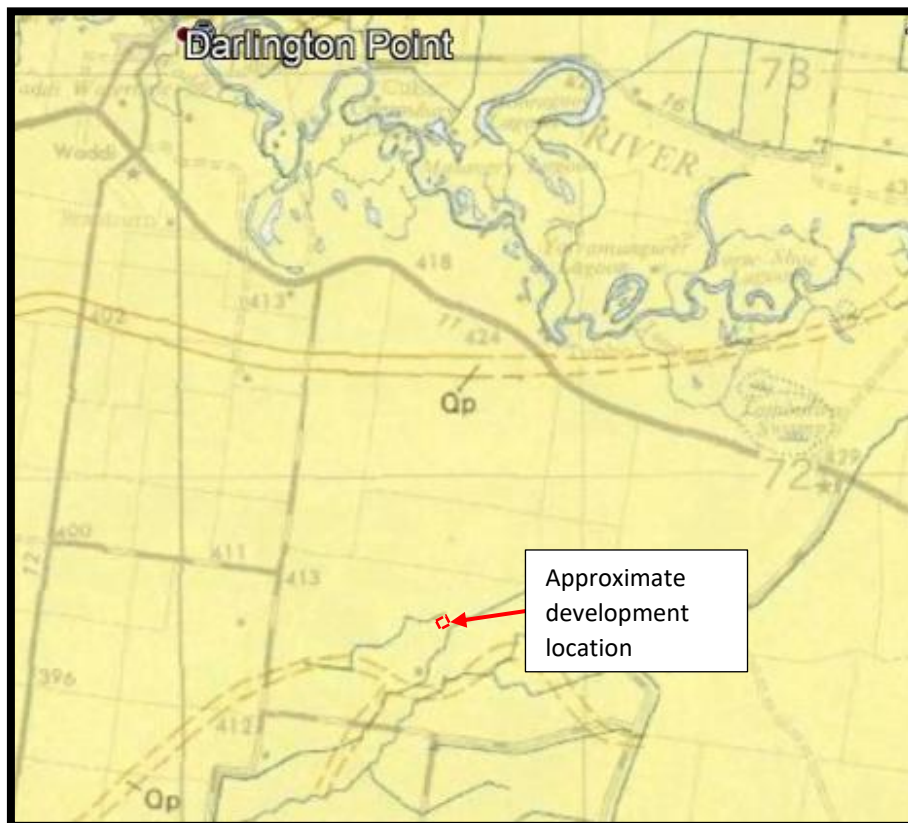


Figure 24 Extract from Narrandera Geological Map (Source: Murrumbidgee Council)

The Due Diligence Code of Practice advises that the proposed activity must be located within proximity to specific landscape features AND must be defined as undisturbed land for further steps of the Code to apply. In this case, the site would be defined as 'disturbed land'. The Code of Practice defines disturbed land as "having been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable". Due to the extensive past and present agricultural use of the land, it is our opinion that it is clearly observable that the land would be defined as disturbed land. As such, the Code advises it is reasonable to conclude that there are no known Aboriginal objects or low probability of objects occurring in the area of the proposed development and as such the development can proceed with caution without applying for an Aboriginal Heritage Impact Permit.

It is noted that Council suggested that liaison be undertaken with the Local Aboriginal Land Council (LALC) in relation to the development. As advised previously in this report, attempts have been made on a number of occasions to make contact with the Narrandera, Leeton and Griffith LALC's to discuss the Due Diligence assessment outcome however at the time of finalisation of this report, our attempts for liaison and further discussion of the Due Diligence assessment outcome have been unsuccessful.

5.12.2 EUROPEAN HERITAGE

The site is not located in a heritage conservation area, nor does it or any neighbouring properties contain a heritage item.

5.13 NATURAL HAZARDS

5.13.1 BUSHFIRE

As described previously in this report the property is not identified as bushfire prone land however it is noted that the vegetation located within 140 metres of the proposal area would be classified as 'grassland' and as such a Bushfire Assessment and Bushfire Emergency Management and Operations Plan has been prepared and accompanies this report as a separate cover attachment.

5.13.2 FLOODING

The property is not identified as flood prone land according to the existing Flood Risk Management Study and Master Plan which does not show the site as being impacted by the 1:100ARI mainstream flood.

5.14 TECHNOLOGICAL HAZARDS

The development would include battery energy storage in the form of five (5) DC-coupled Battery Energy Storage Systems measuring approximately 13 metres long, 3 metres wide and 3 metres high. These would be managed in accordance with *AS/NZS 5139-2017: Electrical installations – Safety of battery systems for use with power conversion equipment* as appropriate.

Electrical equipment of all sizes and voltages produce electric and magnetic fields (EMF). Both fields drop away rapidly with distance from the source, or due to shielding by insulation or earth (in the case of buried installations).

The International Commission on Non-Ionizing Radiation Protection (ICNIRP) has issued Guidelines for Limiting Exposure to Time-Varying Electric and Magnetic Fields. The Australian Radiation Protection and Nuclear Safety Agency (ARPNSA) refer to the ICNIRP guidelines which provide limits for the general public for 50 Hz sources as identified below:

- Electrical Field Strength (E): 5 kilo Volts per metre (kV/m)
- Magnetic Flux Density (B): 200 micro Teslas (μT)

The maximum electric field generated by an 11kV overhead line is depicted in the below figure which shows that the maximum EMF would be emitted between the area directly under the line and 20 metres either side and would measure just over 0.2 kV/m which is well under the ICNIRP EMF guideline limit of 5 kV/m.

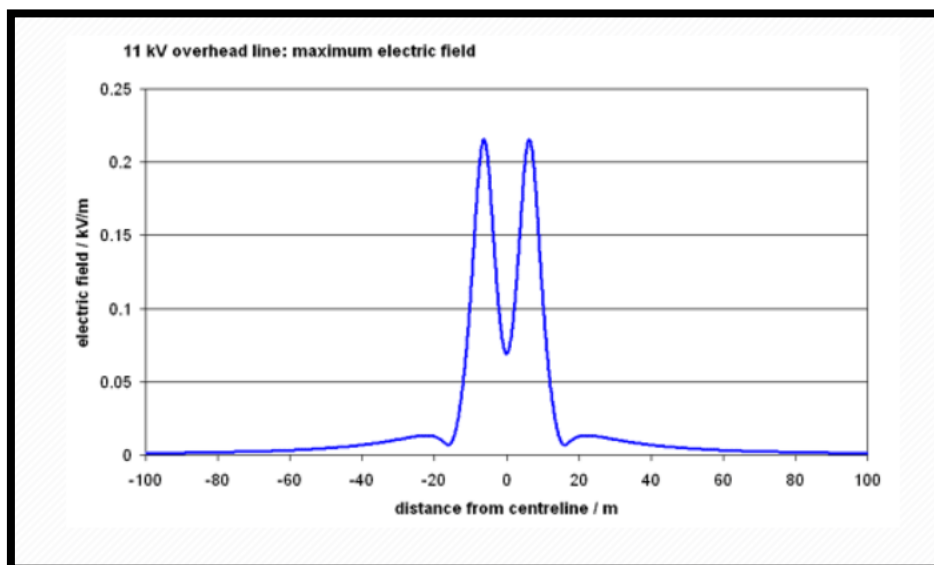


Figure 25 Maximum 11kV overhead line electric field (Source: www.emfs.info/sources/overhead/specific/11-kv)

In relation to magnetic fields produced by 11kV overhead lines, the figure below shows that the maximum EMF would be emitted between the area directly under the line and 20 metres either side and would measure 10 μT which is well under the ICNIRP EMF guideline limit of 200 μT .

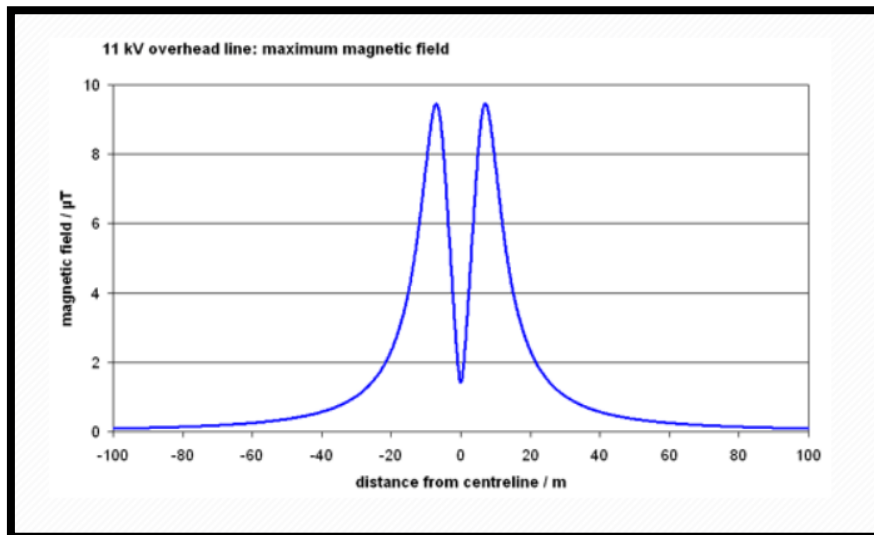


Figure 26 Maximum 11kV overhead line magnetic field (Source: www.emfs.info/sources/overhead/specific/11-kv)

The proposed 11kV overhead lines connecting the facility to the existing Essential Energy infrastructure in the area would be the portion of the development which would emit the most EMF, and as described above, these emissions would be well below the limits specified by the ICNIRP for the general public

5.15 ACCESS, TRANSPORT AND TRAFFIC

5.15.1 ACCESS

The development would be accessed via an internal access track connecting the compound to a proposed new access at the subject lot's Cockys Lane frontage as shown in the accompanying plans. This proposed site access would be constructed as required to Council standards to support construction traffic in terms of maximum vehicle size and number of expected movements during construction. A typical detail of the access would be provided at Construction Certificate stage of the development should consent be forthcoming.

5.15.2 TRAFFIC

Traffic will be generated during the 6 month construction period in the form of delivery of materials to site and attendance of construction staff. A maximum of 50 field crew workers would be on site during peak construction, which is proposed to be undertaken between 7am – 6pm Monday – Friday and 8am – 1pm Saturday. It is expected that arrival and departure of workers to and from the site would be within an hour of the proposed construction hours identified previously.

Minivans will be utilised to transport field crew workers to and from the site to reduce the number of traffic movements generated during construction. As such the maximum number of light vehicle movements expected to and from the site during the peak of construction is 20 movements per day (10 arriving at the beginning of the day and 10 departing at the end of the day).

Material delivery will be undertaken by a number of 5 axle semi-trailers and 3 axle rigid trucks with dimensions as shown in the below figure.

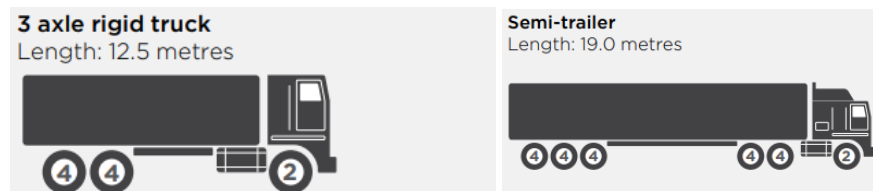


Figure 27 Heavy vehicle lengths (Source: <https://www.rms.nsw.gov.au>)

The majority of material would be transported to the site via rigid trucks, with only the power station requiring transport via a semi-trailer. The majority of deliveries will be undertaken between weeks four and eleven of construction averaging three deliveries per day with the first delivery at approximately 8am. A site traffic controller will ensure materials can be offloaded to the designated material loading zone.

Access to and from the site will be via the proposed new access from Cockys Lane as shown in the accompanying plans. Speed signs will be erected on the site fencing to ensure vehicle speeds within the site are limited.

It is noted that vehicles would travel to the site via the Sturt Highway, Main Canal Road, Wallace Road then Cockys Lane as described in the accompanying Traffic Impact Assessment prepared by Traffic Works. It is noted that vehicles will need to cross a bridge over the Boona Channel on Cockys Lane and as such liaison has been undertaken with Coleambally Irrigation

(CI). CI have provided consent for construction traffic to utilise the bridge however have identified the need for the bridge to be utilised by one vehicle at a time, and for speed on the bridge to be limited. As such traffic control will be in place for construction traffic movements over the bridge as required.

The following conclusions were noted in the accompanying TIA:

- no trends in crashes were observed within the vicinity of the subject site in the last five year period, hence there are no traffic safety problems that require urgent remedial action;
- the peak traffic generation is likely to occur during the construction phase of the development where ten light vehicles and three heavy vehicles are estimated to access the site on a peak construction day;
- Safe Intersection Sight Distance requirements would be satisfied for the proposed subject site access location;
- the conditions from the asset manager of Coleambally Irrigation should be complied with for heavy vehicle movements along Cockys Lane, namely:
 - no heavy vehicles are to access the subject site using the northern crossing over the Tubbo Channel;
 - a 60 km/h speed limit applies for all heavy vehicles using the crossing over the Boona Channel;
 - all heavy vehicles are to cross in the centre of the Boona Channel bridge deck.
- no turn lane treatments are required at the Sturt Highway / Main Canal Road intersection for the construction phase of the development
- the setback of the security fencing for the subject site is greater than the minimum 20 m required to allow storage of a 19 m semi-trailer clear of the traffic lane on Cockys Lane;
- the car parking demand for the site during the construction phase of the development is likely to be 10 spaces and the car parking demand for the site during the operational phase of the development is likely to be one space;
- the car parking demand can be accommodated within the subject site utilising the designated formal off-street car parking area

The TIA made two recommendations which included that all the conditions requested by the asset manager of Coleambally Irrigation for the two-channel crossing along Cockys Lane are complied with and that the subject site access be constructed to Council satisfaction. It is noted that access over Tubbo Channel to the north is not proposed.

It is therefore concluded that the construction traffic impacts of the proposal can be facilitated by the existing road network without adverse impacts or the need for significant works to existing road infrastructure.

Traffic generation during decommissioning is expected to be similar to that generated during construction and as such it is considered that the impacts on the associated road network would not be detrimental. Operational traffic would be limited to one to two small vehicles two to three times per month for maintenance contractor activities only which would have negligible impact on the surrounding road network.

5.16 SERVICING

As described previously in this report, the proposal area is located within proximity to existing Essential Energy infrastructure in the form of overhead 11kV powerlines which would provide connection of the proposed development to the energy grid.

The surrounding area, including Coleambally, Darlington Point, Narrandera, Griffith and Jerilderie, has the capacity and catchment to provide sufficient workforce numbers to enable the construction of the solar farm with minimal likelihood of attracting large numbers of external workers.

5.17 PUBLIC DOMAIN

There is the potential for short-term impacts on the public domain related to the public road system as a result of construction traffic, as well as the possibility of visual impacts on the environment from the solar farm itself. It is however noted that construction traffic will involve no more than six heavy vehicle movements per day and no more than 20 light vehicle movements per day. Given the capacity of the surrounding road network this is not anticipated to have a negative impact on the public domain noting that the traffic impacts would be short term only.

It is considered that the proposed structures and the associated changes to landscape character will be generally insignificant for major transport corridors (the nearest being the Sturt Highway and Kidman Way over 6km to the north and west respectively), with nil views of the project site.

The development will be visually obvious to users of the adjoining road network within the vicinity of the site however as stated throughout this report, agricultural areas have historically been the preferred location for electrical infrastructure, including substations and high voltage overhead transmission lines and electrical infrastructure, including renewable energy infrastructure and ancillary structures, which are common within rural and agricultural areas. Further to this, it is noted that the proposal has an expected lifespan of 31 years, after which it will be decommissioned and the landscape will be returned to its current state.

Given the location of the proposal, there is a limited number of residential receptors and therefore low to negligible visual impacts are expected. The potential impact of the proposal on the public domain is therefore considered to be negligible.

5.18 OTHER LAND RESOURCES

A review of the Minview online database confirms that there are no mineral titles or exploration licenses affecting the subject lot. A review of the Biophysical Strategic Agricultural Land (BSAL) map confirms the development site is not BSAL land.

As described previously in Section 5.7 of this report, the subject lot has a land capability of a combination of Class 3 and Class 6. Class 3 lands are described as having limitations that must be managed to prevent soil and land degradation. Such lands are generally used for grazing, and are suitable for pasture improvement. It can be readily used for a range of crops including cereals, oilseeds and pulses however productivity will vary with soil fertility.

Class 6 lands are described as having severe to very severe limitations for grazing and other land uses. Fertility varies with geology, soil depth and type and such land is suited for less productive grazing.

It is noted that groundcover within the development area will be maintained via permanent pasture for the life of the solar farm and as such it is considered that the development will have less impact on the affected land and soil than the agricultural uses to date. It can be grazed throughout the lifecycle of the development as required to manage growth and the land will easily be able to be returned to additional agricultural use in future following decommissioning of the solar farm. It is therefore considered that the proposal would not result in a loss of any significant land resources.

5.19 SAFETY, SECURITY AND CRIME PREVENTION

The safety, security and crime prevention aspects of the proposal have been assessed against the Crime Prevention Through Environmental Design (CPTED) principles as detailed in the below table.

Table 4 CPTED Principles

PRINCIPLE	COMMENTS
<p><i>Principle 1: Natural Surveillance</i></p> <p><i>Providing opportunities for effective surveillance, both natural and technical, can reduce the attractiveness of crime targets. Good surveillance means that people can see what others are doing thereby deterring 'would-be offenders' from committing crime in areas with high levels of surveillance.</i></p>	<p>The development is consistent with this principle as detailed below:</p> <ul style="list-style-type: none"> • The property is located within a rural area with the primary and secondary road frontages likely to provide local access or to support agricultural-related traffic only. It is therefore considered that the opportunity for the facility to be the target of crime to be low. • The facility will be real-time remotely monitored with the site being attended by contractors a few times a month for maintenance and security purposes. • The development would be visible to passing local traffic utilising Cockys Lane and as such would be passively surveyed. • The site entry would be clearly identifiable from the Cockys Lane access. • Due to the type of construction (tracker systems) there would be limited places for offenders to hide on the site. • Night vision capable security cameras will be placed at the compound entrance to assist in surveillance of the facility.
<p><i>Principle 2: Access Control</i></p> <p><i>Physical and symbolic barriers can be used to attract, channel or restrict the movement of people, and in turn, minimise opportunities for crime.</i></p>	<p>The development is consistent with this principle through:</p> <ul style="list-style-type: none"> • Provision of clear signage at the site entry which identifies the site as privately operated.

	<ul style="list-style-type: none"> • Provision of a clear entry point from the roadway to the site. • Provision of a clear egress point from the site to the roadway. • Provision of signage to channel users to appropriate areas. • Restriction of access to the site through the provision of one main entry point and fencing of the entire development area. • Clear signage to prevent unintended access.
<p><i>Principle 3: Territorial Reinforcement</i></p> <p><i>This principle relies on the users of spaces or areas feeling that they have some ownership of public space and therefore are more likely to gather and enjoy that space. The ownership of space increases the likelihood that people who witness crime in or adjacent to that space will respond by quickly reporting it or by attempting to prevent it.</i></p>	<p>The development is consistent with this principle through provision of a distinct boundary and clear definition of the proposal area in relation to the overall property which reduces opportunity for illegitimate use or entry.</p>
<p><i>Principle 4: Space Management</i></p> <p><i>Public space that is attractive and well maintained is inviting to users and becomes a well used space. Linked to the principle of territorial reinforcement, space management ensures that the space is appropriately utilised and well cared for.</i></p>	<p>The development is consistent with this principle through:</p> <ul style="list-style-type: none"> • Ensuring maintenance of the site area and included landscaping to create a 'cared for' image. • Rapid repair of decaying physical elements throughout the lifecycle of the development.

5.20 SOCIAL AND ECONOMIC IMPACTS

The NSW Government Office on Social Policy defines social impacts as significant events experienced by people as changes in their way of life, their culture, or their community are experienced. The potential social impacts of the development may therefore include impacts on traffic and visual amenity, services, as well as on employment opportunities in the area. Potential traffic and visual impacts have been discussed previously in this report and are considered acceptable.

The proposal would also provide solar energy to the surrounding rural area, with all electricity generated being utilised within the LGA. Potential impacts on employment, through the short-term creation of a number of jobs during the construction period, is also considered positive.

Potential economic impacts are considered positive in the respect of creation of approximately 50 jobs within the locality over approximately 6 months during construction. Further to this, local contractors will be employed for landscape maintenance and security purposes during the long term operation period.

A Social Impact Statement prepared by Mara Consulting considers social impacts of the proposal further and accompanies this report as a separate cover attachment.

5.21 SITE DESIGN AND INTERNAL DESIGN

The site and internal design have been carefully determined considering the site constraints and opportunities, as well as those of the surrounding area and existing infrastructure. Given the location and relative lack of residential receptors, the internal and site design are considered appropriate for the proposal.

5.22 CUMULATIVE IMPACTS

Cumulative impacts associated with the development could include individual impacts so close in time that the effects of one are not dissipated before the next or so close in space that the effects overlap. They could also include repetitive, often minor, impacts eroding environmental conditions or different types of disturbances interacting to produce an effect which is greater or different than the sum of the separate effects.

In relation to the proposal, the potential cumulative impacts could include cumulative visual impacts associated with the development of multiple solar developments in the general locality; or cumulative noise, air quality or traffic impacts associated with construction.

It is noted that there are two other solar farm developments located within an 8.8km radius of the site with the nearest facility being located approximately 4.5km to the north. Due to the distance between the existing facilities and that proposed it is considered that cumulative impacts associated with the proposal would be negligible in terms of noise and air quality. It is noted that construction traffic will utilise the Sturt Highway to the north and construction traffic will not take a route within proximity of either existing solar farms and therefore it is considered that cumulative impacts associated with the proposal would be negligible in terms of traffic impacts.

As described previously in this report, the proposal is for a 'micro' solar farm. The micro solar farm model involves the construction of smaller solar farms (less than 20 hectares in area) that integrate into the existing Essential Energy electrical network. The subject site has been chosen due to its abuttal to existing Essential Energy 33kV transmission lines which mean the proposal will be located immediately proximate to assets that service local population centres and commercial operators which ensures electricity is most efficiently transferred from the source facility. Further to the smaller size of the proposal, it is also noted that the proposal is located further east, adjoining no classified roads and as such the site would most likely only be seen by nearby residents and workers on surrounding farmland thereby its impact, both visually and acoustically is anticipated to be minor.

6 PLANNING PROVISIONS

6.1 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

In NSW the Environmental Planning and Assessment Act 1979 (the Act) institutes a system of environmental planning and assessment in NSW and is administered by the Department of Planning & Environment (DP&E). It is noted that the proposed development is consistent with the objectives of the Act.

Section 1.7 of the Act requires consideration of Part 7 of the Biodiversity Conservation Act 2016 (BC Act). Part 7 of the BC Act relates to Biodiversity assessment and approvals under the Planning Act. Section 7.3 outlines the test for determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities or their habitats. The development is assessed against the matters outlined in Section 7.3 in the below table.

Table 5 BC Act Section 7.3 Test of Significance

SECTION 7.3 PART	COMMENTS
(a) <i>in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction</i>	A search of Bionet Atlas of NSW and the accompanying Flora & Fauna Assessment did not identify any threatened species within, or adjacent to, the development site. Given no tree removal is proposed it would be unlikely to have an adverse effect on threatened species.
(b) <i>in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity—</i> <i>i. is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or</i> <i>ii. is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,</i>	A search of Bionet Atlas of NSW and the accompanying Flora & Fauna Assessment did not identify an endangered ecological community or critically endangered ecological community within, or adjacent to, the development site. Given no tree removal is proposed, as well as the absence of any recorded endangered flora or fauna on site, there is not anticipated to be any adverse impacts upon an endangered ecological community or critically endangered ecological community.
(c) <i>in relation to the habitat of a threatened species or ecological community—</i> <i>i. the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and</i> <i>ii. whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and</i> <i>iii. the importance of the habitat to be removed, modified, fragmented, or isolated to the long-term survival of the species or ecological community in the locality,</i>	A search of Bionet Atlas of NSW and the accompanying Flora & Fauna Assessment did not identify the habitat of a threatened species or ecological community within, or adjacent to, the development site. Given no tree removal is proposed, as well as the absence of any recorded endangered flora or fauna on site, there is not anticipated to be any adverse impacts upon the habitat of a threatened species or ecological community.

(d) <i>whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),</i>	The published biodiversity values map does not include any declared areas at the subject site.
(e) <i>whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.</i>	Given no tree removal is proposed the development is unlikely to be part of a key threatening process or to increase the impact of a key threatening process.

Based on the information in the above table, and in the accompanying Flora and Fauna Assessment prepared by Kleinfelder, it is considered that the proposed development is unlikely to significantly affect threatened species or ecological communities or their habitats.

As consent is required for the proposed development to be carried out, it is noted that Division 4.3 of the Act applies to the proposal.

Other legislation relevant to the proposal includes:

- State Environmental Planning Policy No. 33 – Hazardous and Offensive Development;
- State Environmental Planning Policy (Primary Production and Rural Development) 2019;
- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy (State and Regional Development) 2011;
- Murrumbidgee Local Environmental Plan 2013; and
- Murrumbidgee Council Draft Development Control Plan No. 1 “Village”.

The requirements of these are discussed further on in this report.

6.2 STATE ENVIRONMENTAL PLANNING POLICIES

The below table outlines the SEPPs applicable to this development.

Table 6 Relevant State Environmental Planning Policy Requirements

SEPP	COMMENTS
<i>SEPP33 (Hazardous and Offensive Industry)</i>	<p>The proposed micro solar farm does not pose a significant risk to the locality in relation to human health, life or property, or to the biophysical environment and is therefore not defined as a potentially hazardous industry.</p> <p>The proposal will not emit a polluting discharge which would have a significant adverse impact in the locality or on the existing or likely future development on other land and is therefore not defined as a potentially offensive industry.</p>
<i>SEPP55 – Remediation of Land</i>	<p>When assessing an application for development the consent authority must consider whether the land is contaminated, and if so, that it is suitable in its contaminated state (or will be after remediation) for the purposes of the development.</p> <p>As described previously in this report, the subject site is within a rural area and is not identified as contaminated or potentially contaminated land according to available records. It is noted that agriculture is listed as a land use which has the potential to lead to contamination, however the historical agricultural practices have included grazing and arable cultivation. There is no evidence on site of contamination and the land is considered to be in a suitable state for a</p>

	solar farm development. Further contamination investigation is considered unnecessary for the proposal.
<i>SEPP (Primary Production and Rural Development) 2019</i>	This policy aims, amongst other things, to facilitate the orderly economic use and development of lands for primary production. A review of the provisions of this policy confirms it does not apply to the proposed development and therefore further consideration is not required.
<i>SEPP (Infrastructure) 2007</i>	<p>The aim of this Policy is to facilitate the effective delivery of infrastructure across the State through a number of mechanisms. The proposal would be defined as electricity generating works being a building or place used for the purpose of making or generating electricity or electricity storage.</p> <p><i>Part 3, Division 4 Electricity generating works or solar energy systems</i> is relevant to the proposal. Under this division, development for the purpose of electricity generating works may be carried out with consent on the subject site given its RU1 Primary Production zoning.</p> <p>Clause 45 of the ISEPP relates to the determination of a DA which has the potential to affect an electricity transmission line. Before determining a DA, which meets the relevant criteria provided by Clause 45, the consent authority must first notify the relevant electricity supply authority and consider any comments made by this authority within 21 days of the notice.</p> <p>Clause 104 of the ISEPP relates to development that constitutes traffic generating development. Schedule 3 of the ISEPP provides a list of developments that must be referred to the NSW Roads and Maritime Services (RMS). Electricity generating works are not listed as a development in Schedule 3.</p> <p>Section 104 applies where a development has capacity to accommodate 200 or more vehicles. The development would not have capacity to accommodate 200 or more vehicles either during construction or operation and therefore the development does not represent traffic generating development.</p>
<i>SEPP (State and Regional Development) 2011</i>	<p>This policy aims to identify development that is State significant development; State significant infrastructure; critical State significant infrastructure and regionally significant development.</p> <p>It is noted that the development does not meet the criteria to be classified as State significant development, State significant infrastructure or critical State significant infrastructure due to the capital investment value and the fact the development is being proposed by a private developer.</p> <p>Schedule 7 outlines the development types which are declared to be regionally significant development for the purpose of this Act. The schedule identifies development that has a capital investment value of more than \$5 million for the purposes of electricity generating works as regionally significant development. As such the consent authority for the proposal is the Western Regional Planning Panel.</p>

6.3 STRATEGIC FRAMEWORK

6.3.1 RIVERINA MURRAY REGIONAL PLAN

The Riverina Murray Regional Plan 2036 (RMRP2036) provides a strategic framework for development within the Riverina Murray region. The vision for the RMRP2036 is:

A diversified economy founded on Australia's food bowl, iconic waterways and a network of vibrant connected communities

The vision is supported by the following four regionally focussed goals:

- A growing and diverse economy
- A healthy environment with pristine waterways
- Efficient transport and infrastructure networks
- Strong, connected and healthy communities

These goals are in turn supported by a range of local directions that provide context and detail to the overarching goals. The directions relevant to the proposed development are described in further detail in the below table.

Table 7 Riverina Murray Regional Plan 2036 Directions

DIRECTION	COMMENTS
1: Protect the region's diverse and productive agricultural land	The proposed development will utilise the agricultural land for a set period of time, after which the project will be decommissioned and the land returned to a suitable standard for continued agricultural use as required. The development will therefore be consistent with this direction and relevant associated actions.
11: Promote the diversification of energy supplies through renewable energy generation	The proposal will facilitate renewable energy supply within the region, located so as to take advantage of ready access to the existing electrical network. The development will therefore be consistent with this direction and relevant associated actions.
12: Sustainably manage mineral resources	The development site does not contain any mineral resources and therefore the development will not impact on such. The development will therefore be consistent with this direction and relevant associated actions.
13: Manage and conserve water resources for the environment	The development is located so as to minimise impacts on water catchments including downstream and groundwater sources. It will also have no impact on fish habitat, aquaculture and waterways. The development will therefore be consistent with this direction and relevant associated actions.
15: Protect and manage the region's many environmental assets	The development area is not identified as having high environmental value and will not result in any unavoidable environmental impacts. The development will therefore be consistent with this direction and relevant associated actions.
16: Increase resilience to natural hazards	The development will be located away from areas of high

and climate change	biodiversity value, high bushfire and flood hazards, contaminated land and designated waterways. The development will therefore be consistent with this direction and relevant associated actions.
21: Align and protect utility infrastructure development	The proposal has been located to take advantage of existing infrastructure which minimises costs and maximises benefits. The development will therefore be consistent with this direction and relevant associated actions.

The proposal is therefore considered to be consistent with the RMRP2036.

6.3.2 MURRUMBIDGEE COUNCIL COMMUNITY STRATEGIC PLAN 2017-2027

The Murrumbidgee Council Community Strategic Plan 2017-2027 (MCCSP) provides a 'roadmap' for the Council area that guides decision-making and community participation by providing broad community strategies reflecting the priorities and issues identified and communicated by the communities within the Murrumbidgee Local Government Area.

The vision for the MCCSP is:

Murrumbidgee Council values creativity and innovation to reliably deliver quality service and facilities to its communities. It does this through traditional principles and forward thinking that provide strong, positive leadership to nurture who we are, where we live and what we have built. Our communities are welcoming and energetic – fun and friendly places that appeal to all with everything you need.

The vision is supported by the following key strategic themes:

- Our community
- Our environment
- Our infrastructure
- Our economy
- Our leadership

These key strategic themes are in turn supported by a range of strategies which reflect Council's broad governance, reporting and operations structure. The strategies relevant to the proposed development are described in further detail in the below table.

Table 8 Murrumbidgee Council Community Strategic Plan 2017-2027 Strategies

STRATEGY	COMMENTS
2.1: Protecting existing natural environments for future generations	The development area is not identified as having high environmental value and will not result in any unavoidable adverse environmental impacts. The development will therefore be consistent with this strategy and relevant associated actions.
2.2: Exploring and promoting alternate, sustainable energy sources and	The proposal will facilitate renewable energy supply within the region, located so as to take advantage of ready access to the existing electrical network. The development will therefore be

practices	consistent with this strategy and relevant associated actions.
2.3: Maintaining a balance between growth, development and environmental protection	The development, which will have positive economic and employment impacts within the LGA, can be undertaken without adverse environmental impact and will therefore be consistent with this strategy and relevant associated actions.
2.5 Protecting and managing waterways and catchments	The development is located so as to minimise impacts on water catchments including downstream and groundwater sources. It will also have no impact on fish habitat, aquaculture and waterways. The development will therefore be consistent with this strategy and relevant associated actions.
2.6 Valuing and conserving native flora and fauna	The development will not adversely impact on native flora and fauna and will therefore be consistent with this direction and relevant associated actions.
4.5: Fostering a resilient, vibrant agricultural sector	The proposed development will utilise agricultural land for a set period of time, after which the project will be decommissioned and the land returned to a suitable standard for continued agricultural use as desired. The development area will also continue to be utilised for agricultural purposes in the form of sheep grazing throughout the life of the development. The development will therefore be consistent with this strategy and associated actions.

The proposal is therefore considered to be consistent with the MCCSP.

6.4 MURRUMBIDGEE LOCAL ENVIRONMENTAL PLAN 2013

The subject site is zoned RU1 Primary Production under the provisions of the Murrumbidgee Local Environmental Plan 2013 (MLEP2013), as detailed previously in Figure 6 on page 5 of this report.

Although electricity generating works are not a listed permitted use within the zone, *Part 3, Division 4 Electricity generating works or solar energy systems* of the ISEPP states development for the purpose of electricity generating works may be carried out with consent on the subject site given its RU1 Primary Production zoning. It is noted that ISEPP takes precedence over the MLEP2013 in this instance.

An extract from the Land Use Table for the RU1 Primary Production zone is provided below for information.

Zone RU1 Primary Production

1 Objectives of zone

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.

2 Permitted without consent

Environmental protection works; Extensive agriculture; Home occupations; Intensive plant agriculture; Roads; Water reticulation systems

3 Permitted with consent

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Backpackers' accommodation; Bed and breakfast accommodation; Boat launching ramps; Boat sheds; Building identification signs; Business identification signs; Camping grounds; Caravan parks; Cellar door premises; Cemeteries; Community facilities; Correctional centres; Depots; Dual occupancies (attached); Dwelling houses; Eco-tourist facilities; Environmental facilities; Extractive industries; Farm buildings; Farm stay accommodation; Flood mitigation works; Forestry; Freight transport facilities; Helipads; Home-based child care; Home businesses; Home industries; Home occupations (sex services); Industrial training facilities; Information and education facilities; Intensive livestock agriculture; Jetties; Landscaping material supplies; Open cut mining; Plant nurseries; Recreation areas; Recreation facilities (major); Recreation facilities (outdoor); Roadside stalls; Rural industries; Rural workers' dwellings; Secondary dwellings; Veterinary hospitals; Water recreation structures; Water supply systems

4 Prohibited

Any development not specified in item 2 or 3

As shown previously in the zoning map extract (Figure 6) the surrounding area is also zoned RU1 Primary Production. The objectives of the RU1 Primary Production zone are outlined in the table on the following page.

Table 9 Objectives of the RU1 Primary Production zone

ZONE OBJECTIVES	COMMENTS
<i>To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.</i>	This objective is not relevant to the proposal.
<i>To encourage diversity in primary industry enterprises and systems appropriate for the area.</i>	This objective is not relevant to the proposal.
<i>To minimise the fragmentation and alienation of resource lands.</i>	This objective is satisfied by the proposal as it would not result in the fragmentation or alienation of resource lands. The land would be able to continue to be utilised for agricultural purposes throughout the life of the development and in future following decommissioning of the project at the end of its lifecycle.
<i>To minimise conflict between land uses within this zone and land uses within adjoining zones.</i>	This objective is satisfied by the proposal as it would not result in a conflict between land uses within the RU1 zone and landuses within adjoining zones.

The below table considers the clauses of the MLEP2013 applicable to the subject development.

Table 10 MLEP 2013 clauses applicable to the subject development

PART 2: PERMITTED OR PROHIBITED DEVELOPMENT			
CLAUSE		COMMENTS	APPLICABLE
2.4	<i>Unzoned Land</i>	Not applicable.	N/A
2.5	<i>Additional permitted uses for particular land</i>	Not applicable.	N/A
2.6	<i>Subdivision – consent requirements</i>	Not applicable.	N/A
2.7	<i>Demolition requires development consent</i>	Not applicable	N/A
2.8	<i>Temporary use of land</i>	Not applicable.	N/A
PART 3: EXEMPT AND COMPLYING DEVELOPMENT			
CLAUSE		COMMENTS	APPLICABLE
3.1	<i>Exempt development</i>	Not applicable.	N/A
3.2	<i>Complying development</i>	Not applicable.	N/A
3.3	<i>Environmentally sensitive land</i>	Not applicable.	N/A
PART 4: PRINCIPAL DEVELOPMENT STANDARDS			
CLAUSE		COMMENTS	APPLICABLE
4.1	<i>Minimum subdivision lot size</i>	Not applicable.	N/A
4.1AA	<i>Minimum subdivision lot size for community title schemes</i>	Not applicable.	N/A
4.2	<i>Rural subdivision</i>	Not applicable.	N/A

4.2A	<i>Minimum subdivision for intensive plant agriculture</i>	Not applicable.	N/A
4.2B	<i>Minimum subdivision lot size for strata plan schemes in certain rural, residential and environment protection zones</i>	Not applicable.	N/A
4.2C	<i>Erection of dwelling houses on land in certain rural, residential and environmental protection zones</i>	Not applicable.	N/A
4.2D	<i>Erection of rural workers' dwellings on land in Zone RU1</i>	Not applicable.	N/A
4.3	<i>Height of buildings</i>	Not applicable.	N/A
4.4	<i>Floor space ratio</i>	Not applicable.	N/A
4.5	<i>Calculation of floor space ratio and site area</i>	Not applicable.	N/A
4.6	<i>Exceptions to development standards</i>	Not applicable.	N/A
PART 5: MISCELLANEOUS PROVISIONS			
CLAUSE		COMMENTS	APPLICABLE
5.1	<i>Relevant acquisition authority</i>	Not applicable.	N/A
5.2	<i>Classification and reclassification of public land</i>	Not applicable.	N/A
5.3	<i>Development near zone boundaries</i>	Not applicable.	N/A
5.4	<i>Controls relating to miscellaneous permissible uses</i>	Not applicable.	N/A
5.5	<i>Controls relating to secondary dwellings on land in a rural zone</i>	Not applicable.	N/A
5.6	<i>Architectural roof features</i>	Not applicable.	N/A
5.7	<i>Development below mean high water mark</i>	Not applicable.	N/A
5.8	<i>Conversion of fire alarms</i>	Not applicable.	N/A
5.10	<i>Heritage conservation</i>	Not applicable.	N/A
5.11	<i>Bush fire hazard reduction</i>	Not applicable.	N/A
5.12	<i>Infrastructure development and use of existing buildings of the Crown</i>	Not applicable.	N/A
5.13	<i>Eco-tourist facilities</i>	Not applicable.	N/A
5.14	<i>Siding Spring Observatory – maintaining dark sky</i>	Not applicable.	N/A
5.15	<i>Defence communications facility</i>	Not applicable.	N/A
5.16	<i>Subdivision of, or dwellings on, land in certain rural, residential or environmental protection zones</i>	Not applicable.	N/A

5.17	<i>Artificial waterbodies in environmentally sensitive areas in areas of operation of irrigation corporations</i>	Not applicable.	N/A
5.18	<i>Intensive livestock agriculture</i>	Not applicable.	N/A
5.19	<i>Pond-based, tank-based and oyster aquaculture</i>	Not applicable.	N/A
5.20	<i>Standards that cannot be used to refuse consent – playing and performing music</i>	Not applicable.	N/A
PART 6: ADDITIONAL LOCAL PROVISIONS			
6.1	<i>Earthworks</i>	<p>Earthworks are required to be carried out to construct footings for various inclusions in the proposal and for construction of hardstand areas for vehicle movements.</p> <p>The earthworks are not likely to have detrimental impacts on existing drainage patterns and soil stability on the site. The development will not affect the likely future use or redevelopment potential of the land as it will be decommissioned at the end of the expected 31-year lifespan. Any material excavated from the site is not expected to be of poor quality and would be reused onsite for any filling, if required. The development is not likely to detrimentally affect the amenity of adjoining properties.</p> <p>Any required fill material would take the form of material excavated during works or certified clean fill would be imported if required.</p> <p>It is unlikely that any relics would be discovered within the footprint of the development. Should relics be found during construction works, all works on site would cease until appropriate notification, investigation and reporting had been undertaken to the appropriate authority and advice received as to how to proceed.</p> <p>The proposal would not adversely impact on any waterway, drinking water catchment or environmentally sensitive area.</p> <p>Appropriate sediment and erosion controls would be in place during construction works.</p>	✓
6.2	<i>Flood planning</i>	Not applicable.	N/A
6.3	<i>Terrestrial biodiversity</i>	As noted previously in this report, portions of the site are identified as "Terrestrial	✓

		<p>Biodiversity” as shown in Figure 23 on page 35 of this report. As such a Flora and Fauna Assessment was undertaken by Kleinfelder and accompanies this report as a separate cover attachment.</p> <p>Based on the assessment, it is considered reasonable to conclude that the development will not result in any adverse impact on the condition, ecological value and significance of the fauna and flora on the land, nor will it result in any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna. The development will not fragment, disturb or diminish the biodiversity structure, function and composition of the land, nor will it result in any adverse impact on the habitat elements providing connectivity on the land.</p> <p>Further to this, the assessment identifies a number of measures, which will be implemented in a future Construction Environmental Management Plan, to mitigate the impacts of the development.</p>	
6.4	<i>Groundwater vulnerability</i>	<p>The property is identified as ‘groundwater vulnerable’ according to the Murrumbidgee Local Environmental Plan 2013 as described previously in 5.6 Groundwater on page 31 of this report.</p> <p>No groundwater will be used by the development and the likelihood of groundwater contamination from the development (including from any on-site storage or disposal of solid or liquid waste and chemicals) is considered negligible. Details of safe storage and use of fuels, lubricants or chemicals to ensure avoidance of groundwater impacts will be detailed in a future Construction Environmental Management Plan to be provided as part of a future Construction Certificate Application for the development.</p> <p>No adverse impacts are anticipated on groundwater dependent ecosystems, nor is a cumulative impact anticipated on groundwater (including impacts on nearby groundwater extraction for a potable water supply or stock water supply) due to the nature of the development.</p>	✓

6.5	<i>Riparian land and watercourses</i>	Not applicable.	N/A
6.6	<i>Wetlands</i>	Not applicable.	N/A
6.7	<i>Development on river front areas</i>	Not applicable.	N/A
6.8	<i>Development on riverbeds and banks</i>	Not applicable.	N/A
6.9	<i>Essential services</i>	<p>As described previously in this report, potable water will be made available on the site as required during construction, with ongoing operation only requiring water in the form of a static source for bushfire fighting purposes as the site will be unstaffed.</p> <p>An electrical generator will be operated for power supply during construction. Sewage during construction will be pumped from temporary facilities to a holding tank which will be pumped out as necessary on a regular basis and disposed of at a suitably registered facility.</p> <p>Sewage disposal is not required for the projects ongoing operation due to the lack of onsite staffing of the facility.</p> <p>Vehicle access will be from the nominated access point on Cockys Lane.</p>	✓

6.1 MURRUMBIDGEE COUNCIL DRAFT DEVELOPMENT CONTROL PLAN NO. 1 “VILLAGE”

It is noted that the Murrumbidgee Council Draft Development Control Plan No. 1 “Village” does not include any controls relevant to the proposed development type.

7 CONCLUSION

This SEE report has been prepared to support a development application for a proposed micro solar farm to be located at 1207 Donald Ross Drive, Coleambally.

The proposal has been described and discussed in previous sections of this report, and has been considered in respect of the relevant planning provisions applicable to the proposed development. The proposal is considered to be permissible for the following reasons:

- The proposal satisfies the relevant and applicable legislative and State Environmental Planning Policy provisions;
- The proposal is consistent with the aim and directions of the Riverina Murray Regional Plan 2036 and the strategies within the Murrumbidgee Council Community Strategic Plan 2017-2027;
- The proposal is permissible under the provisions of ISEPP;
- The proposal would not have any significant adverse environmental consequences during operation, including adverse air quality or acoustic impacts over and above the existing

conditions, as discussed previously in this SEE report; and

- The proposal is not likely to have detrimental effects on the surrounding area.

As demonstrated throughout this report, the development is permissible with consent, subject to a merits assessment.

8 REFERENCES

Department of Agriculture, W. a. (2020, February 4). Arrival of goods in Australia. Retrieved from Department of Agriculture, Water and the Environment: <https://www.agriculture.gov.au/import/arrival>

DoEE. (2021c). Weeds of National Significance. Retrieved from <http://www.environment.gov.au/biodiversity/invasive/weeds/weeds/lists/wons.html>

9 LIST OF APPENDICES

Appendix A: AHIMs Results

10 LIST OF SEPARATE COVER ATTACHMENTS

Development Plan set prepared by ACEnergy

Construction Management Plan draft prepared by ACLE Services

Bushfire Assessment and Bushfire Emergency Management and Operations Plan prepared by MJM Consulting Engineers

Flora and Fauna Assessment prepared by Kleinfelder

Traffic Impact Assessment Report prepared by Traffic Works

Social Impact Statement prepared by Mara Consulting

Battery test report

Sungrow Gas Fire Extinguishing System information sheet

APPENDIX A: AHIMS RESULTS



Office of
Environment
& Heritage

AHIMS Web Services (AWS) Search Result

Purchase Order/Reference : 210146

Client Service ID : 585926

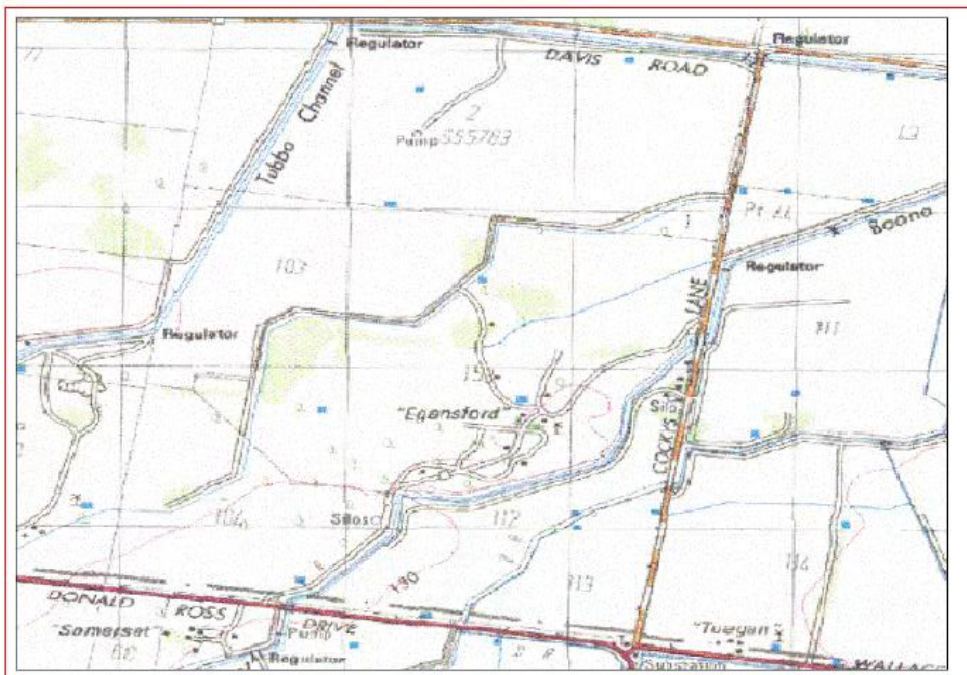
MJM Consulting Engineers
Level 1, 37 Johnston Street
Wagga Wagga New South Wales 2650
Attention: Jenna Amos
Email: jenna.amos@mjm-solutions.com

Date: 26 April 2021

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot: 135, DP:DP750903 with a Buffer of 1000 meters, conducted by Jenna Amos on 26 April 2021.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(http://www.nsw.gov.au/gazette\)](http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.